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# OXFORD ECONOMIC PAPERS

## (NEW SERIES)

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# OXFORD ECONOMIC PAPERS

## (NEW SERIES)

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## HUBERT DOUGLAS HENDERSON

### 1890–1952

We record with the deepest regret the death of Sir Hubert Henderson, which took place on 22nd February last. He was a Delegate of the Clarendon Press for many years, one of the founders of *Oxford Economic Papers*, and Chairman of the Editorial Board. It is proposed shortly to publish a special number in honour of his memory, containing appreciations of his work not only in Oxford but also as Editor of *The Nation* 1923–34, and as economic adviser to the Treasury in the Second World War.

# THE FINANCE OF INVESTMENT[1]

*By* BRIAN TEW

## I

WE can take as our starting-point the Keynesian equation[2]

$$M = M_1 + M_2 = L_1(Y) + L_2(r).$$

Let us, however, extend the Keynesian $M$ to cover the public's total holding of both money and near-money; or, more precisely, the quick liabilities (calculated on a consolidated basis) of the banks and the government. Let us also slightly modify the Keynesian subdivision of $M$ by taking $M_1$ to be the portion of $M$ held for purchasing goods and services, and $M_2$ to be the portion held for purchasing paper titles, or as a store of value. $M_2$, thus defined, can be taken as corresponding fairly closely to the pool from which the finance for investment (by which I mean material investment) has to be drawn.

Can this $M_2$ pool ever run dry? When Keynes's *General Theory* first appeared, many students (myself included) interpreted his $I = S$ equation to mean that the $M_2$ pool could not be depleted by investment, unless enough investment occurred to raise the level of the national income, and thus to increase the quantity of money needed in $M_1$. For, we thought, what is taken out of the $M_2$ pool by investment is returned immediately by saving; hence investment is automatically self-financing, in the sense that the availability of finance to each firm in the economy is just the same whether investment has been taking place or not. Nobody nowadays is taken in by this line of argument, but many of us, I think, have even now not adequately realized how far it diverges from the truth. Let us therefore begin by considering briefly all the reasons why investment is not automatically self-financing.[3]

First, there are time-lags between the withdrawal of finance from the $M_2$ pool and its return to the pool. One of these lags has been described by Keynes himself in his article on 'The "Ex-ante" Theory of Interest'[4]; it arises because finance for investment is needed in advance of actual investment expenditure on goods and services. The existence of this lag

[1] This paper was originally prepared to be read at a meeting of the L.S.E. Economics Society. I have to thank many people, including Lord Piercy, Mr. Ralph Turvey, Mr. Harry Johnson, Mr. Ronald Henderson, and my colleagues at Nottingham, for reading my draft and suggesting amendments. I alone am responsible for the views expressed.

[2] *General Theory*, p. 199.

[3] The three reasons which follow could (it has been suggested by Professor Sayers) be subsumed under the headings: Lags, Leaks, and Locks.

[4] *Economic Journal*, Dec. 1937.

prevents investment from being wholly self-financing when the pace of investment is increasing. In Keynes's own words:

> In the main the flow of new finance required by current ex-ante investment is provided by the finance released by current ex-post investment. When the flow of investment is at a steady rate, so that the flow of ex-ante investment is equal to the flow of ex-post investment, the whole of it can be provided in this way without any change in the liquidity position. But when the rate of investment is changing in the sense that the current rate of ex-ante investment is not equal to the current rate of ex-post investment, the question needs further consideration.[1]

This story is all right except that it implies that the saving generated by *ex-post* investment is *immediately* available to finance further investment. Such is not the case, since much of the saving which results immediately from investment expenditure is simply the temporary holding, by a succession of income-receivers, of the cash which they have received as income but which they have not yet spent on consumption. These temporary holdings must obviously be included in $M_1$, not $M_2$. In other words, whenever cash is withdrawn from $M_2$ into $M_1$, to finance investment, it has to remain in $M_1$ to finance the rounds of consumption expenditure which constitute the Multiplier effect of the investment. Admittedly each round of expenditure is smaller than its predecessor, so that cash is gradually released back to $M_2$, but the process obviously takes time. Thus the time-lag between the withdrawal of cash from the $M_2$ pool and its return is longer than implied in the above quotation, for it comprises the lag between *ex-ante* and *ex-post* investment *plus* a series of consumption time-lags. The fact that the overall time-lag is longer than is implied in the passage quoted does not, however, shake the conclusion that the lag causes difficulties, in the form of a *net* drain from the $M_2$ pool, only when the rate of investment is increasing: with a steady rate of investment the inflow into the pool will eventually stabilize itself at the same rate as the outflow.

The reason why Keynes, in his *E.J.* article, referred to the lag between *ex-ante* and *ex-post* investment, but not to the consumption time-lags, is presumably that any net drain from $M_2$ to $M_1$, due to the consumption lags, had already been taken care of in the *General Theory* by making $M_1$ depend on $Y$, the national income. The presumption therefore is that Keynes was aware (though not perhaps very clearly aware[2]) of the reasons why withdrawals from $M_2$ to finance investment take some time to return.

A second reason why investment may not be self-financing is that there may be a leak in the circuit by which finance taken from $M_2$ is subsequently returned. Some of the liquid assets transferred from $M_2$ to $M_1$ to finance

[1] *Economic Journal*, Dec. 1937, p. 666.

[2] See Professor D. H. Robertson's *Essays in Monetary Theory*, pp. 12–16.

an investment project may not return to $M_2$ but be cancelled instead. One way in which this could happen is through governmental saving. *Ex-post* investment may be balanced in part not by private but by governmental saving (in the form of an increased governmental surplus), and this governmental saving may be applied in reducing:

(*a*) the total of bank-held government debt, or
(*b*) the total of the government's short-term liabilities to the public,

and in either case the total of $M$ will be correspondingly reduced. Again, part of the private saving which contributes to balancing the *ex-post* investment is likely to be corporate saving, which may be used by the firms concerned for repaying their overdrafts, thereby *cet. par.* reducing the amount of $M$.

The third and last reason why investment may not be self-financing is much more fundamental. So far we have tacitly assumed that the $M_2$ pool is a single reservoir, from which finance can be tapped at any point, irrespective of where the inflow is occurring. This assumption corresponds in economic terms to the assumption of a perfect capital market. In the real world, however, the capital market is very far indeed from being a perfect market, and resembles not a single reservoir but a complicated network of partially interconnected ponds, between which water can flow in some cases easily, in other cases hardly at all, depending on the depth of the channels. The significance of this analogy is that the maintenance of the $M_2$ pool *in the aggregate* does not prevent the pool from becoming exhausted *locally*.[1]

## II

We must, then, treat the problem of financing investment as mainly a micro-economic one: does the *individual enterprise* have adequate access to the contents of the $M_2$ pool? Let us therefore focus our attention on some particular business enterprise and suppose that the entrepreneur (by which is meant whoever makes investment decisions) is weighing up the pros and cons of each of a series of possible projects for investment in fixed equipment. We may conveniently label the pros in each case the 'prospective return' from the project and the cons the 'terms of finance'. The various projects under consideration will differ in two respects:

[1] The reason why Keynes was led to overlook the high degree of imperfection in the capital market was presumably that his views about the self-financing nature of investment expenditure were developed mainly in relation not to investment expenditure by firms but to loan expenditure by the government; and of all borrowers the government is unique in the width and perfection of the market which its IOUs enjoy. Thus though it can plausibly be argued that (allowing for the relevant lags and leaks) government loan expenditure creates the demand for the securities which are issued to finance it, the argument is very far from being applicable to investment expenditure by firms.

qualitatively, in the design of the equipment required, and quantitatively, in the size of the initial outlay needing to be financed. Now, given that our entrepreneur chooses some project, why should it not be an infinitely large one? There are two possible reasons. First, if the different projects are arranged in order of size, their prospective returns may, beyond a point, fail to increase proportionately with the financial outlay required. This might arise either because of diminishing returns to scale, or because of our firm being a monopsonistic buyer of labour, materials, or equipment, or again (and rather more plausibly) because of a limited product market. Second, the terms of finance per £100 required may be increasingly unfavourable the larger the amount of finance which is required, due to our firm's imperfect access to the capital market. How often, and to what extent, is the limitation on a firm's investment due to this second reason rather than the first?

When our entrepreneur considers the raising of finance for investment, his concern is not simply with how much finance he should raise at 'the market rate of interest', though this is presumably all he would need to consider if he were faced with a perfect capital market. In practice he must consider not just one variable, but many. For, firstly, finance is not homogeneous: there are different kinds of finance, sometimes competitive and sometimes complementary, just as there are different kinds of consumption goods. Secondly, one possible kind of finance is equity finance, where there is no fixed rate of interest, but instead a rate of dividend which may be expected to vary for a variety of reasons. Thirdly, the rate of interest on fixed-interest finance is not only different for different varieties of such finance: it may also depend on the amount of finance required. And lastly, the annual charge is not the only, or even the main, item involved in the terms of finance: there are also considerations of liquidity, gearing, and control. Let us marshal the very complicated facts with a view to showing why the terms of finance may be worse for our enterprise, the larger the project chosen by our entrepreneur.

The source of finance most readily available to an enterprise comprises its own non-operating assets, if it has any,[1] provided these are liquid, like a time deposit, or widely marketable, like government bonds. Such assets represent in the former case the portion of $M_2$ already owned by the enterprise, in the latter case securities which other holders of $M_2$ would in very many cases readily accept in exchange for their holdings. The amount of non-operating assets already held by an enterprise is a fixed sum, so the supply of internal finance is inevitably completely inelastic, beyond a certain point. But even before this point is reached the supply is imper-

[1] An important case of an enterprise without any non-operating assets would be a newly formed company, which had not yet obtained any capital subscriptions.

fectly elastic, because an enterprise's non-operating assets are the basis of its liquidity, and the more they are drawn upon the more illiquid will the enterprise become.

The other sources of finance available to an enterprise all involve borrowing from, or issuing equity to, outside investors or 'capitalists',[1] with holdings of liquid or widely marketable assets. When an enterprise seeks finance from outside capitalists, there are two fairly general considerations, besides several more specific considerations, which may limit the total amount available, or at any rate worsen the terms of finance, the larger the amount required. The first fairly general consideration is simply that outside capitalists are very far from unanimous in their attitude to an enterprise: a given enterprise can usually get a larger amount of outside finance only by seeking subscriptions from capitalists who are less interested, or less well informed, or less trusting—and who consequently need to be tempted by better terms or more expensive advertising. The second fairly general consideration is that the number of outside capitalists capable of fully understanding the potentialities of a given project is usually very small; the rest have therefore good reason to be cautious about believing in the additional profit which the new equipment is expected to assure and to concentrate their attention instead on how they would fare if the profit available for paying interest or dividends did not greatly increase beyond its level in the recent past. If such is the attitude of outside capitalists they will naturally conclude that the larger the amount of new capital sought by an enterprise the more thinly will the expected profit have to be spread. This consideration would serve to account for (*a*) well-established firms being able to get outside finance on better terms than new firms, and (*b*) a large issue from an old firm being less attractive to subscribers than a small issue.

In addition to these two factors affecting the availability of all types of outside finance there are two further important factors affecting respectively equity and fixed-interest finance: the former factor being the danger of weakening the existing controlling interest, the latter the danger of excessively high gearing.

The seriousness of the former differs very greatly from case to case. A controlling group is usually secure if it owns over half the equity capital of an enterprise, so that an enterprise can issue equity freely so long as this criterion is satisfied and thereafter further issues are all right if at least a half can be taken up by the existing controlling group. If this were the whole story the limitation on equity financing would usually be serious,

[1] Since I have been using 'investment' in the Keynesian sense of purchases of *material* assets, I shall avoid describing the person or institution who purchases *paper* assets as an 'investor', despite the widespread use of the word in this sense.

since the existing members of a controlling group normally have only limited resources for new subscriptions and the number of new shareholders who could be absorbed into the group without undermining its cohesion would normally be strictly limited. Admittedly, as the authors of *The Modern Corporation and Private Property*[1] have shown, the story in practice is much more complicated, since there are many effective ways of securing control without owning 51 per cent. of the equity; but on the whole these complications apply almost solely to giant corporations. *Most* enterprises *are* severely limited in the amount of new equity they can issue without weakening the existing controlling interest, and most controlling groups are more or less reluctant to weaken their position. In consequence, the greater the amount of new equity finance required for an investment project, the worse will the terms of finance tend to become, if we subsume in 'terms of finance' *all* the sacrifices (whether monetary or not) which are involved in obtaining the finance.

If the amount of equity finance which it is possible or prudent to obtain for a project is limited, only a limited amount of fixed-interest finance can be accepted without causing a more highly geared capital structure. High gearing may be disliked by the equity holders in an enterprise, since it reduces the stability of the distributable profits and increases the risk of bankruptcy: it is always disliked by the fixed-interest creditors, since it increases the risk that the enterprise will not be able to meet their claims to interest and repayment. Thus a given enterprise with a given availability of additional equity finance may have to pay a higher rate of interest the greater the amount of its fixed-interest borrowing, to compensate the lenders for the additional risk; and, more important, there will almost certainly be an absolute ceiling to the total amount of new borrowing, representing either the maximum amount which lenders are prepared to lend or the maximum amount which the controlling group of equity holders is prepared to borrow. (In practice the two parties are often in close agreement as to the height of the ceiling.)

Thus far we have been considering the finance of a project for investing in fixed equipment. Most of our argument is, however, equally applicable to investment in inventories, except in one important respect. This is that it is frequently possible to borrow on short term against inventories up to a substantial proportion of their value on terms which are virtually unaffected by the size of the amount borrowed. Accommodation of this kind is provided mainly by the banks, either directly or through the money market, and in the form of trade credit. But such accommodation is available only to satisfy *part* of the entrepreneur's requirement for finance: a trader whose assets are entirely inventories may hope to get half or even

[1] A. A. Berle and G. C. Means.

more of his finance from his bank,[1] but he obviously would not get *all* his finance in this way, and in finding the balance he is liable to encounter all the difficulties which would obtain had he been trying to finance new fixed equipment.

Our conclusions as to the conditions of supply of finance for investment are at obvious variance with the popular adage that it is easier to borrow a large sum than a small one. The adage is, however, rather ambiguous. It may mean that it is easier for I.C.I. to borrow £1 million than for Brian Tew to borrow £100: in this sense the adage is true but irrelevant to our argument. Or it may mean that I.C.I. can raise £10 millions on better terms than £1 million: in this form the adage is relevant and must be examined seriously. All our arguments thus far have been designed to show that I.C.I. would suffer a deterioration of terms in choosing to raise £10 millions rather than £1 million—but are there factors which operate in the reverse sense to the ones we have considered? One such factor is the cost of a public issue, if the new finance is sought in this way. The cost of an issue increases in much smaller proportion than the size of the issue, being, for example, almost prohibitively high on an issue of less than £50,000 but a small item on an issue of £10 millions. Moreover, a large issue is likely to enjoy a more regular turnover on the Stock Exchange. This is an attraction to capitalists, who like to know that they can readily market their securities, if ever they have reason to sell out at short notice. It is, however, difficult to imagine any other plausible reason why it might be possible to raise £10 millions on better terms than £1 million, except that a gullible capitalist may be gulled more readily with a big lie than a small one.

We have now reached an unhappy state of uncertainty: in some cases, it would seem, the terms of finance may deteriorate, in other cases improve, with an increase in the amount of finance required. It is, however, possible to be rather more definite than this. In the first place, the expense and difficulty of making a small issue are especially serious only in respect of a very small issue—they would not, for example, be much more serious for an issue of £500,000 than for a very large issue—and in any case the need for a small issue arises only when a firm cannot readily obtain finance privately. In the second place, it is difficult to believe that the point of deteriorating terms would not be reached eventually, even in the case of I.C.I. Even if this company could raise £10 millions on better terms than £1 million, it might have considerable difficulty in raising, say, £100 millions and not be able to raise £1,000 millions at all. In the third place, though in the case of I.C.I. the point of deteriorating terms of

[1] The precise proportion will depend on many factors, including the prevailing views as to the future course of commodity prices.

finance may be sufficiently remote as to have little practical relevance to the company's investment policy, it is possible and, indeed likely, that at the other end of the industrial scale there are many small firms, the size of whose investment projects is effectively limited by the availability of finance on acceptable terms. We all know the sole proprietor who could expand his business but 'cannot stand having a partner' and who has already borrowed as much as his (or his banker's) prudence will permit. We know also the small company which likewise could expand 'but it wouldn't do to let the control pass out of the hands of the family'. Moreover, it would be wrong to think that it is *only* the small enterprise whose investment projects are limited by the availability of finance. There are large family businesses, as well as small ones, in which the family is unwilling to weaken its hold on the management and is frightened of borrowing for fear of 'getting into the hands of the bank' or of debenture holders. Then again, particularly in times of depressions, there are large companies whose credit standing has become rather dubious and which therefore cannot get outside finance—even for intrinsically sound projects —until either their fortunes improve or a financial reconstruction can be arranged.[1]

## III

Now if an entrepreneur decides, on a certain date, to undertake some particular investment project, limited in size by the conditions of supply of finance or by less-than-proportional prospective returns, or by a combination of both, this project need not of course be the only one he will ever undertake. The fact that it is in his interest to choose a £1 million project in 1930, in preference to a £2 million project, does not preclude the possibility that it may be in his interest to invest a second £1 million in 1940. For unexecuted investment projects are likely to mature with the passage of time, since events may well happen which favour an improvement both in the prospective returns from a given project and in the terms on which it can be financed. Any theory about the *pace* of material investment must be concerned with the analysis of such favour-

[1] Mr. Ronald Henderson has drawn my attention to the fact that post-war conditions have been exceptional and may lead observers seriously to underestimate the importance of financial considerations in more normal times. The availability of finance after the war was improved by the piling up of firms' liquid reserves during the war (when normal investment, and indeed normal maintenance, was often impossible), by the cheap money and easy credit policy of Mr. Dalton, by the repatriation of our overseas investments (e.g. Argentine railways), and by the nationalization of British industries (which not only made former shareholders look for other industrial securities but provided such companies as Powell Duffryn and Scottish Motor Traction with funds which could be used to finance other firms).

We have since the war rather become used to the idea that material investment is usually restricted by shortages and by official controls. This, however, may well be a passing phase, and if it passes the availability of finance can be expected to become very much more important in determining the pace of investment.

able events. Most theories about the pace of investment pay exclusive attention to the events which favour the improvement in prospective returns. Thus there may be a rise in consumption expenditure—which provides the basis of the 'acceleration' theory of investment. Or existing machines may, with the passage of time, become worn out or obsolete, thus improving the prospective returns from new machines to be used in their place. Or again, there may be inventions and discoveries which bring new projects into the realm of possibility. The merits and weaknesses of these theories of investment need not concern us here: all we need note is that they need, as their complement, an analysis of the events which, with the passage of time, improve the terms on which an enterprise can obtain finance for investment. Kalecki appears to be alone in recommending a theory of investment which finds a place for such financial considerations.[1]

In view of the foregoing analysis of the financial limitations on the size of the investment project which will at any time be undertaken by an enterprise, it is easy to see that the main factor which, with the passage of time, makes finance available for further projects is the saving performed both by the enterprise itself and also by the capitalists who are prepared to supply finance to the enterprise—particularly by the key capitalists who comprise the existing controlling group. The size of this flow of saving depends very much on the profits earned by the enterprise, together with the profits of other enterprises in which the relevant capitalists are interested. The profits of the enterprise are also important in overcoming the caution of sceptical capitalists: if an enterprise executes project A in 1930 and thereby increases its annual profits throughout the following decade, it will probably encounter much less difficulty in raising outside money for project B in 1940 than would have been the case in 1930. Hence we can say that the *continuance* of investment by an enterprise requires an adequate level of income and saving in some particular small sector of the economy.

## IV

The level of income and saving in one particular small sector of the economy depends mainly on income-generating expenditure *in the rest of the economy*; and conversely investment expenditure in one particular small sector of the economy serves mainly to increase incomes and saving elsewhere. A hypothetical example may help to clarify this point. The Bloggs Hosiery Co., a small family business in Nottingham, spends £100,000 on new equipment. Only half the necessary finance is sought

[1] See, for example, *Essays in the Theory of Economic Fluctuations* and *Studies in Economic Dynamics*.

outside the Bloggs family, which regards this proportion as the maximum consistent with maintaining control and avoiding an excessively high gearing.

The £100,000 of investment generates income and saving somewhere in the economy, but only in most exceptional circumstances would either the income or the saving be in the Bloggs family. If, for example, all the new equipment came from London the additional income and saving consequent upon the company's investment would probably arise mainly in the London district. Thus though a high proportion of the £100,000 taken from the $M_2$ pool would in due course return to the pool, little, if any, would get back into the hands of the Bloggs family, and maybe not a great deal would get into the hands of the capitalists on whom the Bloggs Hosiery Co. would have to depend for raising further outside finance. Much of the £100,000 might indeed get into the hands of capitalists who liked only gilt-edged securities, or securities issued by well-established large companies, or who were interested exclusively in certain particular industries or particular localities—and who in any case had never even heard of the Bloggs Hosiery Co. of Nottingham.

The replenishment of the $M_2$ holdings available for financing further investment by the Bloggs Hosiery Co. would therefore not to any appreciable extent occur automatically, as the result of the company's own investment expenditure, but would depend on the continued prosperity of the company (and maybe of certain other companies), which in turn would depend on the patronage of customers throughout the land, which in turn would depend on the continuance of a high level of national income, which in turn would depend *inter alia* on a high level of investment in the rest of the economy.

## V

The consequences of a compartmentalized capital market have not been completely ignored hitherto, but in the main the only compartments which have been recognized have been:

(*a*) the division of the world market into national markets, between which capital may flow only with difficulty, and

(*b*) the division of the market into a risk-capital section and a safe-capital section.[1]

What needs to be recognized is that in practice there are subdivisions of the market within each of these main divisions, so that the extent of the market accessible to an individual entrepreneur may be very small

[1] See, for example, F. W. C. Blom's article on 'Business Saving and Employment' in *Oxford Economic Papers*, June 1951.

indeed. Too much emphasis has been placed on the forces which tend to restore a uniform level of water in the different portions of the $M_2$ pool. There is no need to belittle the invaluable work of financial intermediaries —such as assurance societies, building societies, and investment trusts—or of the Stock Exchange (which enables newly saved money to change hands many times against old securities before reaching a capitalist who is prepared to subscribe to a new issue). But these institutions merely somewhat mitigate the problem of financing investment: they fall very far short of solving it.

It might be argued that the capital market cannot be very imperfect in practice, or we should hear a lot more about the difficulty of financing investment. This conclusion is, however, a *non sequitur*, the reasons for the absence of complaints probably being:

1. Many of the enterprises which are limited in their access to the capital market are even more limited in their opportunities for profitable investment.
2. Much of the imperfection in the capital market is due to conditions imposed by the people who actually decide investment policy, and who cannot be expected to raise an outcry against themselves.
3. Most businessmen accept the imperfection of the capital market as one of the inescapable facts of life, against which it would be pointless to protest.

It is indeed difficult to see that much could be done to reduce the imperfection of the capital market, however much this might be thought desirable. The main hope seems to lie in the direction of the establishment of new financial intermediaries which would siphon off finance from the better filled parts of the $M_2$ pool and redistribute it where it is most needed. The I.C.F.C. is an encouraging example of what can be done, but significantly it has been able to do little to solve the hard core of the problem—the provision of *equity* finance for small firms. Only about one-tenth of the I.C.F.C.'s business so far has been in the form of equity participation.[1] The corporation's difficulty in this connexion has been that it deals with small companies, where shareholdings are normally not widely dispersed, and where in consequence the controlling interest lies in a definite and clear-cut manner with the holders of 51 per cent. of the shares. There is not much possibility of a complicated balance of power among shareholders, such as may occur in a large company. Consequently the I.C.F.C. commonly faces the dilemma that a 51 per cent. equity participation may be unacceptable to its client, since it involves 'handing over the business',

[1] However, the Corporation holds, in addition to this equity, a certain amount of options to convert fixed-interest securities into equity. It is too early to judge the extent to which these options will be exercised.

and a 49 per cent. participation may be unacceptable to the corporation, since this kind of equity may be but little removed from charity. The dilemma does not admit of an easy solution. There is of course the possibility of participating on the basis of an agreement which makes the corporation a sleeping partner except in certain circumstances (e.g. if less than $x$ per cent. profit is earned), or in respect of certain 'reserved' subjects (such as directors' remuneration, new borrowing, or investment projects of more than a certain size). But it is far from easy to negotiate sophisticated agreements of this sort.

Another possible line of advance would be to persuade existing institutional investors to interest themselves in a rather broader range of industrial securities, but there has already been considerable progress in this direction and we cannot reasonably expect much more. Yet another possibility would be to introduce new arrangements in the new issue market, with the aim of cheapening the cost of small issues. My own view, for what it is worth, is that the I.C.F.C. should be encouraged to enter this field, but I have no means of guessing by how much this would increase the volume of issues by firms lacking alternative source of finance.

You may well think, of course, that this is no time to break down the imperfections in the capital market, even to the small exent that might be feasible in practice, since such imperfections operate to restrain investment and thereby to reduce inflation. While admitting the force of this argument, I cannot help thinking that there are better ways of restraining investment than by applying the curb in such a haphazard fashion.

## VI

With our present state of knowledge, or rather of ignorance, it is unhappily impossible to make a satisfactory assessment of the practical significance of an imperfect capital market. For though we may accept that the vast majority of firms are faced with a more or less strictly limited supply of finance for investment, we are certainly not in a position to say in how many cases the *effective* limiting factor on investment is mainly the lack of finance, rather than the inadequacy of prospective returns. All we know is that there is a sector of the economy, quite possibly an important sector, in which availability of finance is the sole or the main limitation on investment. How big this sector is, what industries are represented in it, whether it has a stable or an unstable composition, how it varies in size as between booms and depressions, we just do not know. It would be interesting to establish whether particular industries are

chronically short of finance, whether the Depressed Areas were troubled with financial anaemia, whether the sector of the economy held back by lack of finance expands enormously (as it may well do) at times of financial crisis. These and many other interesting questions lie well beyond the present frontier of our knowledge.

But given that there is a sector of the economy in which investment is restricted by the availability of finance, we can perhaps hazard several suggestions as to its peculiar characteristics. The equipment of firms in this sector may well be more primitive or old-fashioned than elsewhere in the economy, or of less than the technical optimum in size, or a patchwork resulting from a succession of investment projects, where technically it would have been better to make a fresh start. Balance-sheets in the sector are likely to show a shortage of cash and other liquid assets; there may also be an unusual dependence on fixed-interest finance and in particular on short-term finance, owing to the rigid limitation on the amount of new equity which can be obtained or accepted. But most interesting of all is the behaviour of this sector in business fluctuations; for within this sector the marginal propensity to spend is not limited to the marginal propensity to consume but is unity—since all income is spent either on consumption or on investment. Indeed, in certain circumstances, such as those described by Mr. Blom in his article in *Oxford Economic Papers*, the marginal propensity to spend may in effect be greater than unity, for the finance supplied by a firm's own undistributed profits, or by the saving of certain key shareholders, may facilitate the raising of finance elsewhere.

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# SOME NOTES ON PUBLIC COMPANY BALANCE-SHEETS AND THE ASCERTAINMENT OF THE LIQUID POSITION

*By* F. STONES

## I. The Use of Balance-sheets

THE functions of a public company annual balance-sheet are threefold: (*a*) to satisfy the requirements of the Companies Act, (*b*) to enable the directors to see what change has taken place in the net assets of the company since the date of the previous balance-sheet, and (*c*) to provide the shareholders with a statement from which they may, if they are able, draw conclusions as to the safety or otherwise of their investment.

Before the 1948 Companies Act it is safe to say that *published* balance-sheets only fulfilled one of these functions—the legal requirements—at any rate as far as large companies were concerned. Most large companies were to some extent holding companies, and the general failure to publish consolidated balance-sheets made it impossible for even the most highly skilled accountant to do anything more than make an intelligent guess at a company's position.

It was intended that the 1948 Companies Act would change this, as the publication of a consolidated balance-sheet was made a legal requirement, and an onus was laid upon the company's auditors to certify that the published accounts represent a 'true and fair view of the state of affairs of the Company as at the date of the balance sheet'.

The result of this legislation, however, is that it is doubtful whether balance-sheets now really fulfil *any* of these functions properly. Taking the legal requirement first, it is not yet really certain what is regarded as a 'true and fair view of the state of affairs', although on the face of it this would not seem to require any definition. However, taking one example, it is common practice (and legally acceptable) to value work in progress (and other stocks) at cost or market-price, whichever is the lower. The result is that provided market-price is not exceeded, the higher the cost of work in progress the higher the value placed on stocks, and consequently, the greater the profit. This is a nonsensical position, but one which orthodox accountancy countenances, and the argument used in its support is that no profit or loss occurs until a sale is made. Unfortunately profits or losses *can* be made during manufacture, and if unsold production is valued at cost then there is always the danger that profits and the liquid position will be over-stated; by this method, when production costs are high, the liquid position is apparently improved.

(*Editor's note:* Mr. Stones is Secretary of a large manufacturing company.)

The problem of accurate stock evaluation is a contentious one for industrial accountants, and generally speaking it is under this heading that serious departures from the representation of a 'true and fair state of affairs' occur. Unfortunately the 1948 legislation gave no lead to the solving of this problem. The following notes may throw some further light on the matter.

The 'cost or market value' theory has its roots in principles laid down by the Inland Revenue, and it is unfortunately true that accountants generally are far too prone to prepare accounts on taxation principles rather than think out for themselves principles which are economically sound and of much greater value to industry. The Inland Revenue looks back; the industrialist must look forward.

'Stocks' in a balance-sheet sense cover the following items:

(*a*) Work in progress.
(*b*) Raw materials or production stores.
(*c*) Consumable stores.
(*d*) Engineering spares.

*Work in progress*: to value this at market-price is very often impossible. What would half a motor-car be worth? There is no recognized market-price: some of the finished parts might fetch spare-part prices, whilst others, unfinished, probably only scrap prices. Under this theory of 'cost or market' therefore, work in progress usually has to be valued at cost. Unfortunately cost is a fluctuating factor. Owing to variations in time, labour, and materials consumed, it would be a miracle if one half-finished motor-car cost exactly the same as any other in the same state. By valuing at cost the position arises where identical articles will be carried in stock at widely varying values; it is difficult to see any logic in this.

The conclusion must be that work in progress should be valued according to its relationship to the final product. If a finished motor-car has a pre-sale value (that is the value before the profit is added) of £500, then a half-finished car cannot be worth more than £250. If it has cost more than £250 to reach that stage of manufacture, then losses have been made. These losses may have been in costs of materials, time, or labour. Nevertheless, they *are* losses and to say the least, would not appear to have good stock value. They should be carried to the Profit and Loss Account. Conversely, gains might arise which should also be treated as such in the Profit and Loss Account—not used to reduce stock values in the balance-sheet and hence the year's profits.

The key to this—the 'standard cost' method of stock evaluation—is of course the calculation of the standard value to be placed upon the work in progress. Briefly, standard cost may be defined as the *normal* amount of

materials, time, and labour consumed in the manufacture of any product at any stage of manufacture. Once standard costs have been agreed—the methods adopted being outside the scope of these notes—then stock evaluation, budgetary control, and the recording of production variances become matters of routine.

The importance of the method of valuation of work in progress must be judged from the fact that in most manufacturing concerns this is by far the largest class of stock.

*Raw materials* and *consumable stores* can usually be valued at 'cost or market' with little logic, but without great difficulty, although such schemes as 'Last in first out' have been devised (and discussed at great length) with the objects, presumably, of ensuring (*a*) that the cost of goods manufactured during a period is stated at current market-prices, and (*b*) that unrealized profits on stocks are not reflected in the accounts. Against this it must be said that since stocks remain valued at the price paid for the oldest goods, considerable adjustments are necessary at the year-end to bring values into line with the cost or market basis which most companies adopt for balance-sheet purposes. Further, there is the disadvantage common to all methods of valuation except the standard cost method, that there may be wide fluctuations in work in progress values, the disadvantages of which have already been discussed. Incidentally, it is difficult to see how such methods as L.I.F.O. can be applied to work in progress.

Once the principle of standard cost stock evaluation for work in progress has been accepted, however, it is only logical that the same method should be applied to these other classes of stock. In building up the pre-sale value of a product, obviously a normal value or cost must be calculated for the raw materials and stores to be consumed. This relationship to the total pre-sale value having been established, it must remain constant until selling prices are altered; otherwise there cannot be a reliable valuation of work in progress.

*Engineering spares* present many problems in stock valuation. Unlike other stocks they are often slow-moving, remaining in stock sometimes for years. Their weight in the total stock value will vary from industry to industry; in an industry like the heavy steel trade a considerable amount of working capital may be tied up in spares if serious production delays are to be avoided. The issue of spares at cost and their replacement at current prices (it is necessary as a rule to replace them as soon as the stock is cleared) might involve: (*a*) anything up to three times the original cost, with a consequent increase in working capital, and (*b*) the over-statement of current profits by the inclusion of stock gains from a previous period.

Without going into detail, however, it may be said that it is logical and practicable to value engineering spares on a standard cost basis.

To sum up, the theory supporting the use of the standard cost basis of valuation may be stated as follows:

Any manufacturing business must be run to a plan if it is to survive. That plan will involve an estimate of the cost of the product (i.e. the standard cost) and by its deduction from the selling price the consequent margin of profit. As long as selling prices remain unaltered, the management (including the sales policy) of the business must be founded on this expected profit margin. All stocks must therefore bear a fixed relationship to the selling price, and this relationship, evaluated by standard cost, forms the only logical basis for stock evaluation. *The highest value of any item of stock which can be recovered in the selling price is its due proportion of the total standard cost.*

The advantages of the system are:

1. It can be applied to any class of stock.
2. It is simple to operate.
3. It leads to accurate control of material costs through the variance accounts, which show up the excess purchase prices and excess usages of productive and stores materials.

Another balance-sheet item which does not give the 'true' position is the estimate of *contingent liabilities* in respect of contracts for capital expenditure. Current practice is to take the contingent liability as being the amount of orders outstanding. In general this is misleading, because it is only small schemes which are fully covered by this method. In large schemes it may easily be that at the date of the balance-sheet the only contract placed is for, say, the civil engineering work; there must, however, be a further contingent liability to complete the scheme, unless conditions are so bad that a company prefers to leave it incomplete, with consequential dead capital, rather than attempt to raise capital to complete it. This state of affairs may be regarded as abnormal at present for a going concern.

As far as the directors of a company are concerned, the published balance-sheet is not normally regarded as an instrument of management. In the first place it is usually drawn up to present the best possible view of the state of affairs—even in the best-regulated companies a certain amount of 'window-dressing' takes place. Secondly, the information it contains is too condensed and much greater detail is usually required for management purposes. Thirdly, its compilation normally is only an annual event, whereas management should be constantly aware of the disposition and alinement of the fixed and liquid assets of the company. For this reason balance-sheets should be available at any time—which perhaps may be interpreted as not less than once a month—but few accountants strive to attain this ideal.

It appears, therefore, that a balance-sheet may be legally satisfactory and yet will by no means present a true view of a company's economic position. There are of course companies which do adopt the standard cost method of stock evaluation previously described; the point is that at present there are widely differing views among accountants as to what is a true and fair balance-sheet.

The shareholder is therefore left in a position which in many ways is unsatisfactory, but the published accounts contain all the information he is likely to get, and he must do his best to ascertain from them how his investment is faring. For an untrained accountant this is not an easy matter: in fact, even an orthodox accountancy training is not too satisfactory, although it would help to enable the shareholder to 'read between the lines'. (It is perhaps an indictment of accountants that it should be necessary to 'read between the lines'.)

## II. The Liquid Position

From the shareholder's viewpoint the essential fact to ascertain is whether the company has maintained its liquid position. This may be regarded as the first duty of the directors of a company to its shareholders, and as it is the privilege (almost the only one) of shareholders to appoint the directors, then they should be able to see if their nominees are doing their work satisfactorily. Further, from an economic standpoint it is the one sure guide as to the direction in which a company is travelling—whether it is increasing its liquid assets or whether they are being decreased to such an extent that fresh capital will soon be needed.[1]

The following may be regarded as a typical simplified consolidated balance-sheet, the figures being rounded off for convenience to the nearest £100,000:

| Liabilities | £*Mn.* | Assets | £*Mn.* |
|---|---|---|---|
| Capital—Issued | 13·0 | *Fixed Assets* | |
| Reserves | 5·5 | Land, plant, buildings, &c., net | 10·5 |
| Future taxation liability | 2·5 | Loose plant and tools, net | 0·9 |
| *Current Liabilities* | | *Current Assets* | |
| Creditors | 6·0 | Stocks | 9·0 |
| Taxation due | 1·5 | Debtors | 5·0 |
| Maintenance provision | 1·6 | Securities | 2·5 |
| Dividends payable | 0·8 | Cash | 3·0 |
| | 30·9 | | 30·9 |

Contingent liability in respect of capital expenditure: £4·5 Mn.

[1] It is not perhaps necessary in these notes to explain the meaning of the various terms used in a balance-sheet; this has been done elsewhere, and economists will find a convenient summary in *Manufacturing Business* by P. W. S. Andrews.

The orthodox balance-sheet appears to have been designed to permit a ready extraction of the liquid position, and in commenting on company results the financial and economic press usually take out what they regard as the liquid position and assess the economic position from it.

The orthodox way to assess the liquid position is to deduct current liabilities from current assets. From the balance-sheet shown, this would give the following result:

| | £Mn. |
|---|---|
| Current Assets | 19·5 |
| Current Liabilities | 9·9 |
| Net liquid assets | 9·6 |

This would be regarded as satisfactory. The misleading phrase is 'Net liquid assets'. The usual interpretation is that this represents assets which can relatively easily be converted into cash, and when a shareholder sees this 'surplus' he believes he can see something which represents a cushion to cover his dividends and also most of his investment. Neither of these conclusions is really sound. A company can show a substantial liquid surplus by this method and yet be in dire straits for lack of liquid capital. What the shareholder really needs is an estimate of the economic state of the company *as a going concern*, and for this purpose it is suggested that the following method of ascertaining a liquid position using the same balance-sheet is one which will give a truer picture:

| | £Mn. |
|---|---|
| *Current Liabilities* | |
| Future taxation | 2·5 |
| Creditors | 6·0 |
| Taxation due | 1·5 |
| Maintenance accrued | 0·8 |
| Dividends | 0·8 |
| Capital expenditure | 6·0 |
| | 17·6 |
| *Current Assets* | |
| Debtors | 5·0 |
| Securities | 2·5 |
| Cash | 3·0 |
| | 10·5 |

This method shows that the company may be actually deficient in liquid assets to the extent of 7·1 millions, although if trading conditions continue to be satisfactory more capital may not be immediately required; there is, however, a latent danger in this situation.

The chief difference between the two methods is that the orthodox one takes out the liquid position as if the company were to be wound up immediately, whereas the other method looks at the company as a going

concern. It is difficult to justify examining a balance-sheet other than from this latter viewpoint; all concerned—shareholders, directors, employees, and customers—are anxious to ensure that the business is a continuing one, and the winding-up position can only be of academic interest.

Bearing this viewpoint of a going concern in mind, the following explanations of the figures given above will readily be understood:

*Stocks.* The value of stocks has been omitted from the total of current assets. They are essentially a part of working capital and are not a true liquid asset. They are certainly more liquid than fixed assets, but they represent a continuing item of investment which must be maintained. Incidentally, as explained earlier, the value placed on stocks is often of doubtful validity; in the case of a winding-up (which generally occurs during slumps) their realizable value is even more uncertain.

This omission of stocks from the liquid assets is, of course, an over-simplification of a very real problem. Other aspects of the position are given below, but a shareholder from a mere inspection of a balance-sheet is hardly likely to be able to go into these refinements, and in the long run he will be nearer the truth if he omits the stocks from his assessment of the liquid position.

What the balance-sheet does not disclose is the relationship between the volume of stocks and the manufacturing and trading activities. In times of rising production heavier than normal stocks may be carried, some of which will in due course be permanently liquidated and revert to cash. These excess stocks may perhaps rightly be regarded as liquid assets; whether they will eventually realize the value placed upon them is another matter—on a rising market they may appreciate and vice versa. If the demand for an industry's products continues, however, raw materials may get scarce and stocks may be reduced to an extent which eventually leads to manufacture being restricted to a level below normal. This deficiency in stocks will have to be replaced as soon as possible, and if the cash represented by this over-liquidation of stocks has been 'ploughed back' or distributed as dividends, then there is a corresponding additional debit to the liquid position. The solution to this problem as far as a shareholder is concerned is for the quantities of normal or basic stocks—namely, those required for a standard level of production to be maintained under normal conditions—to be valued at current standard values and shown as a separate item under the heading of stocks in the balance-sheet. Even if the shareholders are not given this information, it would be desirable for the directors to be aware of it; the danger of regarding cash from over-liquidation of stocks as being part of the liquid resources and therefore available for capital development or distribution is very real under present conditions.

To sum up:

1. Basic stocks should not be classified as liquid assets. The balance-sheet should indicate the original capital outlay and the additional capital which has had to be invested to maintain minimum stocks at current standard values.

2. Excess stocks may be regarded as liquid assets and the directors should explain the method of valuation adopted and the policy which prompted the excess investment.

*Future Taxation liability.* This has been included amongst current liabilities for the obvious reason that it will only be a relatively short time before it is necessary to find cash to pay it; if trade falls away in a sudden slump there might be no profits in the ensuing year, but the liability would still have to be met. Whether a slump will come gradually or quickly is a matter for conjecture, but if history teaches anything it does teach that a slump will come, and it is the writer's view that it is wise to see if a company is prepared to meet it.

*Maintenance accrued.* Orthodox balance-sheets often do not disclose any liability in regard to maintenance (again the influence of Inland Revenue accounting 'principles'). Nevertheless it is a liability; maintenance accrues and may be regarded as a secondary form of depreciation. It is, however, a peculiar kind of liability inasmuch as it may impinge on the cash position immediately or it may be some years before the maintenance is required; much depends on the nature of the industry. As a compromise half the provision has been taken as being a current liability, the cash for it having to be found within the near future.

Such an arbitrary estimate is really unnecessary. Maintenance liability can be assessed with reasonable accuracy, and by using estimates of plant and plant-part lives as a basis, the approximate date at which cash will be required will be known.

*Capital expenditure.* The contingent liability of £4·5 millions probably represents (under current conditions) capital schemes totalling three times that amount. However, some of this will, if profits are maintained, be met out of future surpluses. As a compromise, the amount of £1·5 million has been added to the balance-sheet figures so as to obtain an estimate of the amount which will have to be met out of current assets.

It is appreciated that this is a purely arbitrary figure, but as under current conditions so much capital development is financed by 'ploughing back' apparent surpluses, some attempt must be made to assess the full impact of capital expenditure on the current liquid resources, and the mere calculation of the amount of orders outstanding on capital account is

hardly likely to do this. What is really needed is for balance-sheets to disclose the following information:

1. Orders outstanding on capital account.
2. Estimated expenditure on capital account during the following year.
3. Estimated total cost of all capital schemes sanctioned.

It may be that some authorities will regard the proposed method of ascertaining the liquid position as too conservative. Conservatism in this connexion is, however, probably a good thing as the general tendency in industry appears to be towards over-expenditure on capital account, and it is possible that one influencing factor has been the over-estimation of the liquid surplus.

It appears to the writer, however, that the point of principle is of fundamental importance. A business should be regarded as a continuing activity, and any assessment of its economic position must be made from this standpoint. The principle becomes even more important when the widely varying picture which is obtained by using any other method is noted.

## III. Depreciation

Depreciation is not normally regarded as influencing the liquid position, but this is because the movement of depreciation in the balance-sheet is not generally understood. Depreciation is an item of cost; every article produced carries away with it some part of the original fixed assets. Depreciation therefore represents the transfer of fixed assets into production, via the Profit and Loss Account, thence to sales and back to the balance-sheet under creditors, finally coming to rest as cash. Originally the total of cash would be regarded as working capital, but as manufacture proceeds it is obvious that cash becomes a mixture of fixed and working capital.

This inevitable agglomeration of fixed and working capital often leads to over-assessment of the liquid surplus. Strictly speaking, the fixed capital which is in the form of cash has a liability attached to it, the liability to be earmarked for the replacement of the fixed assets, and it should not therefore readily be considered to be available for other purposes.

It is, however, now regarded by accountants and economists as unnecessary to set this cash aside, in, say, a sinking fund, for the specific purpose of plant replacement. The fashion is to regard all cash, other than that needed for day-to-day working and payment of dividends, &c., as surplus to requirements and therefore available for 'ploughing back'. This ploughing back can be in the form of additions to the plant (which it is hoped will give a bigger return than if the cash were invested in

securities, and so eventually help to finance the original plant replacement) or, as is happening today under high production conditions, it can be used for financing higher stocks, thus converting fixed capital into working capital.

A full discussion of this problem is outside the scope of these notes, but the dangers of over-expenditure on capital account due to the confusion of thought as to what is a liquid surplus should be appreciated. Profits are high today and the outlook rosy, but the entrepreneur who will weather the eventual storm will be the one who has kept a supply of oil in his lamp—one lamp with oil in it will be better than two empty lamps.

Balance-sheets do not account the fixed assets in such a way that a shareholder can assess to what extent fixed and working capital have come together; in fact the whole problem is generally ignored by accountants. Perhaps it is not too much to hope that before long further consideration will be given to the presentation of balance-sheets in such a form that they will be of real value to shareholders and directors alike.

SHEFFIELD

# PENSIONS AND RISING PRICES

*By* V. S. GARIBIAN *and* P. J. D. WILES

**1.** THE problem of protecting pensions against permanent and considerable rises in prices is one that very much exercises all who pay premiums or receive benefits. In an unsophisticated sort of way it is discussed with a frequency and a grasp of fundamentals that should disconcert insurance companies. Ordinary people realize very well that they are paying in good money now to receive bad later on. And indeed the probability is overwhelming that we have not seen the last of permanent and considerable rises in prices. For this view there is not only the backing of common sense but a great weight of economic opinion.[1] Retail prices have risen nearly as much since the war as during it, and it is very wrong to shove the question into the past as something purely due to this or that great war. For the future, owing to full employment, the lack of a gold standard, the strength of trade unions, and the cold war, is going to be entirely unlike the past. It threatens us, to be precise, with peace-time inflation. This proposition we shall throughout assume without further discussion.

It may seem strange that space should be demanded for the question of pensions and rising prices in a non-actuarial journal. But it has some intrinsic economic interest: e.g. are the schemes for protection against inflation themselves inflationary? More important, however, is to bring the interested pressure of the intelligent lay public to bear, and to instruct them in the most elementary aspects of the situation (since neither of us is an actuary we should be incapable of more).[2] A little knowledge is of course a dangerous thing, but ignorance in these matters is far from bliss. Finally—dare we say it?—the actuarial profession, properly sceptical, as all professions, of innovation, may be spurred to more activity, not least, no doubt, by our sheer lack of expertise. The assumption of stable currency and stable prices lies very deep in the British actuarial subconscious: let analysis remove it betimes before a traumatic experience supervenes.

**2.** We begin with a description of what has already been done, *and is now successfully functioning*, in France. After the war, as a consequence of the heavy depreciation of the French currency and of the corresponding increase in the cost of living, pensions in France had become altogether

[1] See *The Economist*, 17 Mar. 1951, 'Inflation's Gallop'; 18 Aug., 25 Aug., 1 Sept. 1951, 'Agenda for the Age of Inflation'; 8 Sept. 1951, 'The Age of Inflation'; 5 Jan. 1952, 'Outlook for Inflation'. *Financial Times*, 29 May 1951, 'The Importance of Being Under Thirty', by Harold Wincott; 31 May 1951, '1951–2 Years of Inflation?', by Roy Harrod. *Manchester Guardian*, 18 Sept. 1951, 'Three Economic Illusions', by Colin Clark. *The Listener*, 15 Mar. 1951, 'Uses and Abuses of a Cost of Living Index', by Dudley Seers.

[2] We are grateful, however, for the assistance of the actuaries Mr. Recknell and M. Dunaigre. But no responsibility can be shuffled off upon them.

inadequate. Such pensions were based on the fiction that a paper franc was worth a gold franc, and one often saw retired persons, who had occupied high positions in various professions, receiving pensions of 30,000 to 50,000 francs (£30–50) a year. The condition of the widows and minor children, who were only entitled to pensions of reversion, was still less enviable.

A reform was overdue and was carried out in stages and in different schemes. But all the new schemes had two joint characteristics. First, two people who had carried out the same responsibilities during the same length of time were to receive, at the same retiring age, the same pension, irrespective of the year in which they had retired. Secondly, pensions were to be adjusted to the cost of living as reflected in the present scale of wages and salaries.

This was made possible by the substitution of the so-called system of 'distribution'[1] for the former system of 'capitalization'. By 'capitalization' is meant the orthodox system whereby employees and their employers used to pay yearly premiums into a special Pension Fund and the sums thus collected were invested at compound interest, mainly in gilt-edged securities, until the employee reached the pensionable age of 65. On his reaching that age the amount of capital and interest accumulated in the Pension Fund was repaid gradually to the pensioner by way of life annuities. This system achieved its object as long as currency remained stable.

But when the cost of living rose catastrophically, pensioners became the victims of the system of 'capitalization'. The amount of their pensions could not be increased, except by way of *ex gratia* grants from their former employers, assuming the latter were willing and in a position to do so. In any case, an increase of pensions under this régime implied considerable delay and hardship for the pensioners and endless *démarches* by their protective associations if any; in short, it was a sort of humiliation.

These evils are due to the accumulation of funds which is the very basis of the system of 'capitalization'. It was therefore suggested that they could be remedied if a more flexible system could be substituted for the rigid system of 'capitalization'. The system of 'distribution' is based on the simple principle that, in each profession, the active members must support the retired members out of the salaries which they currently earn, and which, it may be safely assumed, keep pace more or less with the rise in prices. Under this system funds need not be accumulated; the question of their depreciation therefore does not arise. The premiums now collected from the active members are now distributed to the retired members of

[1] The French is *répartition*. The only previous mention in English of this scheme known to us is Prof. Boyd's article 'A Sensible Pensions Scheme' in the *Oxford Magazine* of 16 November 1950.

the profession. Thus the two major grievances of retired people mentioned above are avoided. The following example illustrates the idea far better than any explanation.

Let a group of 100 active members receive each an average salary of £1,000 a year and have a pension scheme based on a 10 per cent. premium payable by the employees and employers. The aggregate amount of the salary of this group would be £100,000. If the same group has 20 retired members, the available amount of the premiums (£10,000) would enable the payment of £500 to each retired member, namely, half the salary of an active member.

Now let the group of 100 active members get a cost-of-living increase of 20 per cent. The total salary of the group in such case would be £120,000 and the 10 per cent. premium on the latter figure would amount to £12,000. This would enable the payment of £600 to each of the 20 retired members of the group, exactly the same proportionate rise of pensions as in the salaries of the active members.

*Banking profession.* A scheme on the above lines is now in operation in the French banking profession. The matter was complicated because, on the one hand, banks had, before the latest round of inflation, formed their own Pension Funds based on 'capitalization', and, on the other hand, it is now compulsory to affiliate all employees (except those in State service) to the pension scheme of the Social Security, which, *inter alia*, will provide, for 30 years of service, a pension of 40 per cent. at the age of 65 on a given maximum salary (in 1951 this maximum is Frs.408,000, or roughly £408 per annum).

The amount of pension allocated to an individual bank employee under the new scheme is paid (*a*) partly by the old Pension Funds formed under the system of 'capitalization'; incidentally this implies the gradual liquidation of such funds; (*b*) partly by the Social Security; and (*c*), for the balance, by the new Pension Fund formed under the system of 'distribution'. Particular banks can and do offer better terms. There are no publications showing the actual results attained by the new Pension Funds of the banks. But we are assured that the scheme has been successful so far (1951).[1]

*Industrial and commercial concerns.* Their system is quite different and more ingenious. An agreement signed on 14 March 1947 between the Protective Associations of the higher employees and the Federation of Employers (*Conseil National du Patronat Français*) organized a pension scheme based on a 'points' system. Both parties pay premiums for pensions in the normal way, but each employee, instead of being credited

[1] By private letter. For the inauguration of this scheme compare *Banque*, Aug. 1947. The review *Banque* can be bought at its offices, 36 rue Taitbout, Paris—IX$^{e}$.

with an amount of money, is credited with a number of 'pension points'. At the end of his career the employee has therefore so many 'pension points' to his credit.

The value of the 'pension point' is fixed in two manners. First, during the activity of an employee, in order to credit his individual account, the amount of his yearly premium is divided by the hourly wage of a workman in the metallurgical industry in the respective years. Secondly, during the period of retirement of an employee, in order to fix the amount of his pension, the value of the 'pension point' is fixed by dividing the total of the premiums collected by the total of the 'pension points' of the retired employees, and the value thus obtained is multiplied by the number of 'pension points' of the individual pensioner.

For example, assume a premium of Frs.100,000 has been paid in 1950 for an active member. If the wage of reference for that year is, say, Frs.50 an hour, the account of the active member is credited with $100{,}000 \div 50 = 2{,}000$ 'pension points'. Assuming that, in the same year, the total of premiums thus collected amounts to Frs.20 millions and that the number of 'pension points' of the retired members amounts to 2,500,000 points, the value of a 'pension point' for purposes of distribution will be Frs.8. A retired member who had, say, 60,000 points to his credit thus received Frs.480,000 (£480) as a pension in 1950.

If the wages of the active members go up in 1951 by 10 per cent., it is obvious that the collected premiums will also go up by that proportion and reach the figure of Frs.22 millions. The division of the latter sum by 2,500,000 'pension points' will bring the value of each point to Frs.8·8. The retired member who had 60,000 points to his credit as stated in the above example will receive therefore Frs.528,000 (£528) in 1951 as a pension—namely, the same increase of 10 per cent. as that enjoyed by the active members.

Pensions on the 'point' system are paid in addition to the pensions which an employee may have to receive under the old system of 'capitalization' or from the Social Security. Further, as an exceptional measure of solidarity towards old colleagues who had not participated in a pension scheme, or whose pensions had 'gone with the wind' as a consequence of currency depreciation, past careers are brought into account as if premiums had been paid into the new 'distributive' fund; corresponding 'pension points' are allotted to the retired or active members; and pensions granted to those retired members (or to their widows) who have ceased working.

The reference to wages in the metal industries is due to the fact that the agreement was first made for the higher employees of that industry. The hourly wage is rather an abstract notion, which only bears a remote

comparison with actual wages. Its value (Frs.50 in the above example) is fixed each year with a view to maintaining the stability of the number of 'pension points' allocated to each individual member, if his position in the profession has not changed. Lastly, in the example shown above, it has been assumed, for the clarification of the *exposé*, that all the premiums collected under the system of 'distribution' were actually paid out. In fact, the expenses of the management of the fund are charged to the premiums collected and, with a view to ensuring the stability of the value of the 'pension point' and to equalizing its value in lean years, the management has deemed it wise not to distribute the amounts collected up to the last penny. Indeed, very considerable reserves are at present being built up, since demographic statistics show that the ratio between retired and working may grow more unfavourable. Even allowing for this, the scheme appears to have been perfectly successful so far (1951), as shown in the following Table.[1] The course of the value of the 'pension point' may be compared with the course of the cost of living in Table III.

*Other professions.* Similar 'distributive' schemes have been or are being organized for doctors, lawyers, artists, &c., with varying degree of success,

TABLE I

| *Years* | *Number of firms participating in the new 'distributive' scheme at the end of the year* | *Number of premium-paying members at the end of the year* | *Number of retired members, widows, and orphans at the end of the year* | *Number of 'pension points' entitled to a benefit at the end of the year* | *Value of the 'pension point' during the year* |
|---|---|---|---|---|---|
| 1947 | (*a*) | (*a*) | (*a*) | (*a*) | Frs. 4.00 (*c*) |
| 1948 | 28,296 | 224,065 | 19,459 | 302,000,000 | „ 5.00 (*d*)<br>„ 6.00 (*e*) |
| 1949 | 33,074 | 256,220 | (*b*) | (*b*) | „ 6.60 |
| 1950 | 44,873 | 309,906 | 41,431 | 634,000,000 | „ 6.60 (*f*)<br>„ 8.00 (*g*) |
| 1951 | (*h*) | (*h*) | (*h*) | (*h*) | „ 9.00 (*f*)<br>„ 11.00 (*g*) |

(*a*) As the scheme started on 1 April 1947, complete figures for that year are not available.
(*b*) Not available.
(*c*) For the last three quarters of the year.
(*d*) For the first three quarters of the year.
(*e*) For the last quarter of the year.
(*f*) For the first two quarters of the year.
(*g*) For the last two quarters of the year.
(*h*) Not yet available.
Source: A.G.I.R.C., *Bulletin d'Information* No. 11, Third Quarter, 1951.

[1] The qualified authorities for this scheme are the Commission Paritaire Nationale, 33 avenue Hoche, Paris—VIII[e], and the Association Générale des Institutions de Cadres, 4 rue Leroux, Paris—XVI[e]. It has been described by a French actuary, M. J. Dunaigre, at the 13th International Actuarial Congress at Scheveningen (1951): 'Le Régime Général de Retraites et de Prévoyance des Cadres en France'.

according to the sense of solidarity and foresight or individualism and carelessness prevailing in a given profession or in its members.

The *French State* itself runs a 'distributive' scheme for civil servants, of a somewhat informal kind as it is merged in the general budget and cushioned by payments into or out of that. State pensions in France used to be governed by a law of 14 April 1924. After various increases of such pensions, a recent law, No. 48–1450 dated 20 September 1948 (published in *Journal Officiel* No. 224 of 20/21 Sept. 1948), brought about a fundamental change. Art. 17 of that law provides that in the future pensions will be based on the salary *now assigned to the last post* occupied by a civil servant during a minimum period of six months, and not on the last salary *actually drawn* by a civil servant. As regards old pensions, Art. 61 of the same law provides that they are to be always adjusted in accordance with the rules of Art. 17 applicable to new pensioners. The Italian State has now a similar regulation.[1]

University teachers have the status of civil servants in France.

The schemes run by the *British Ministry of National Insurance* are also 'distributive'. Since the State makes up their deficit, most of the problems discussed below arise, if at all, only in an attenuated form.

**3.** Even to the non-technical eye, these 'distributive' schemes raise serious problems if not supported out of the budget. We may mention the following:

(*a*) Are 'distributive' schemes costlier than 'capitalization'? At first sight they seem to be so, since they comprise no compound interest, which is an important element of 'capitalization'. Unfortunately it is not yet

[1] The British system (if we may call it that) is to pass Pensions (Increase) Acts at long intervals: 1920, 1924, 1944, 1947. The provisions of the last two Acts are a curious mixture of crudity and complication, of which the chief effects seem to be as follows, for a pensioner with a wife or at least one dependant:

| Pension at 31 Dec. 1943: | £100 or less | £100–200 | £200 or more |
|---|---|---|---|
| Add in 1944 | 30% | 25% | 20% (with upper limit of £300) |

| Pension at 31 Dec. 1943: | £100 or less | £100–133⅓ | £133⅓–200 | £200–390 | £390 or more |
|---|---|---|---|---|---|
| Add in 1947 | 40% | £40 | 30% | £60 | Enough to make £450, which is upper limit. |

This has the following results for typical incomes:

| | £ | £ | £ | £ | (cost of living) |
|---|---|---|---|---|---|
| 1939 . . . . . | 100 | 110 | 150 | 210 | 100 |
| 1943 . . . . . | 100 | 110 | 150 | 210 | 144 |
| 1944 . . . . . | 130 | 137·5 | 187·5 | 242 | 147 |
| 1947 . . . . . | 140 | 150 | 195 | 270 | 173 |
| 1950 . . . . . | 140 | 150 | 195 | 270 | 194 |

Note the only-to-be-expected results—a trend towards equality and lower real pensions. The cost of living is as in Table III.

possible to give a precise reply to that question for lack of proper statistics of the 'distributive' schemes for a long enough period. Estimates of the French experiment vary a great deal and some actuaries think that, assuming a stable currency and no increase in the cost of living, 'distributive' schemes are on an average about 75 per cent. more expensive than 'capitalization'. But that is only a far-fetched estimate based on the average of the whole of the working population between the ages of 20 and 65. On the specific example (given below) of a man of 35 joining a 'distributive' scheme, things do not look as dark as that.

Much depends, moreover, on the rate of interest prevailing in a given country. In France, for instance, where 'capitalization' schemes are now computed on an interest rate of 4½ per cent., the increased cost may be 75 per cent. as stated above. But in Britain, where rates are rather lower and profits tax intervenes, the increase would be smaller.

Besides, the very condition upon which the estimate of 75 per cent. rests, namely, stability of currency, is exactly what we must not assume. If the estimate of 75 per cent. is correct, in an Age of Inflation, if prices and wages go up by more than that percentage from the payment of the first premium to the middle year of retirement, the increase of pension in a 'distributive' scheme compensates for the loss of interest. Everything depends therefore on the tempo of inflation. Should it be rapid as in France, 'distribution' is undoubtedly the smaller of the two evils. If inflation is slow as hitherto in Britain, 'capitalization' with all its drawbacks may still be more advantageous. The future pace of inflation is the essential element in this respect.

Benefit under a 'capitalization' scheme derives mainly from (i) premium payments; (ii) compound interest on such premiums; and (iii) rate of mortality of the group of persons participating in the scheme. At the age of 35 and assuming retirement at 65 after 30 years of service, pensions derive from these three elements roughly at the rate of 40 per cent. from the premiums, 30 per cent. from compound interest, and 30 per cent. from mortality. Assuming there is no change in the cost of living, the pension under a 'distributive' scheme would be smaller owing to the loss of interest. How far must prices, wages, and pensions rise to compensate that loss of interest? In the given example, if the 'distributive' pension is by one-third smaller than a 'capitalization' pension, a rise of 50 per cent. in the cost of living and the scale of wages at the time of retirement of the employee who has chosen a 'distributive' scheme would compensate, by way of an increase of pension, for the loss of compound interest. Would it be too rash to assume that, in an Age of Inflation, the cost of living and wages are sure to go up by 50 per cent. in 30 years? The trend of things shows that a bigger rise is, indeed, much more probable.

The main factor, however, in a 'distributive' scheme is not the loss of compound interest but the ratio between active and retired members in a given profession. If that ratio is a very favourable one, for instance 100 active against 10 retired, the result based on a contribution of 10 per cent. would be extremely attractive; it would imply an adjustable pension of 100 per cent. of last pay. Should the ratio be 100 active against 20 retired, the adjustable pension would be 50 per cent. of last pay. With a ratio of 100 active against 12 retired, a pension under a 'distributive' scheme would be roughly equal to that under 'capitalization', if prices were constant and French rates of interest applied. This is shown in Table II. The French experience has shown so far a ratio of 100 active against 10 retired members, as late retirement is usual among the higher employees. This is very satisfactory indeed, but the experience is not yet conclusive and the ratio will probably deteriorate. The ratio of active (20–65) male population to retired (over 65) tends in European countries to be 9 to 1.

In spite of all these difficulties it seems interesting to give in a schedule, with all reservations, a tentative comparison of both schemes as they now operate in France:

TABLE II

| *Age of participant* | *Number of premiums payable until 65 years of age* | *Life annuity at 65 obtained by a yearly premium of* 1 | | | *Ratio of active to retired required to obtain under 'distribution' same annuity as in 'capitalization'* |
|---|---|---|---|---|---|
| | | | *Distribution* | | |
| | | *Capitalization* | *With a ratio of 5 active against 1 retired member* | *With a ratio of 10 active against 1 retired member* | |
| 25 | 40 | at 4½% 18·69 | 5 | 10 | 18·69 to 1 |
| 30 | 35 | „ 13·90 | 5 | 10 | 13·90 to 1 |
| 35 | 30 | „ 10·15 | 5 | 10 | 10·15 to 1 |
| 35 | 30 | at 2% 5·85 | 5 | 10 | 5·85 to 1 |

The last row, giving the comparison at 2 per cent., shows the attractiveness of 'distribution' in a cheap-money country.

(*b*) What is to be done if the required ratio does not hold in practice, for example when employment in the firm, industry or trade contracts? The theoretical remedy to such situations under the French scheme is a reduction of the amount of the pensions granted; these are thus liable to decrease as well as to increase. But with a view to avoiding such an undesirable measure as the decrease of pensions already granted, the necessity of building up a Reserve Fund is generally recognized. A reserve is also necessary to meet withdrawals and deaths. To be effective, however,

a Reserve Fund must be fairly large and in that case one falls, at least partly, on the old 'capitalization' system which the new scheme was set up to avoid. To overcome the difficulty some participants suggest that the Reserve Fund should be limited to 3 years of the granted pensions, whereas the management of the scheme wishes to proceed more cautiously, with a view to stabilizing the value of a 'pension point' for at least 10 years. The constitution of a Reserve Fund raises incidentally the question of its investment. As the whole assumption of the scheme is that prices will rise, it is useless to invest the Reserve Fund in gilt-edged. How then should it be invested, with or without limitation of dividends? The size of the Reserve Fund and its investment are controversial points which, we understand, have not yet been solved in France.[1]

(*c*) On the other hand, when the new scheme begins to operate, it offers the possibility of making *ex-gratia* payments to those already retired or to their widows, who of course require relief as inflation has partly expropriated them. This possibility of making *ex-gratia* payments is one of the most attractive features of the new scheme and compensates for a great many practical difficulties.

(*d*) No insurance company can be persuaded to forgo its present high prosperity under the system of 'capitalization'. During the formative period of 'distribution' the French insurance companies simply maintained an attitude of interested expectation. But in France individual insurance policies on a 'capitalization' basis are only about 40 per cent. of pre-war volume by real value, though group policies retain approximately their pre-war real volume; and it is possibly this shrinkage of business that has now brought French insurance companies to offer to administer 'distributive' schemes for a fee. 'Distribution' is, however, essentially co-operative, and is managed in France mostly by committees composed of representatives of employees and of employers. The moving spirit in such committees is not the idea of making a profit, as would be natural in any profit-making organization, but the best management of the pension scheme in the sole interest of the employees.

(*e*) In order to maintain as far as possible the stable ratio between retired and workers, a 'distributive' scheme would have to be compulsory for all the members of a given profession and the profession should be as widely defined as possible. This means that 'distribution' could only replace existing compulsory pension schemes, not the ordinary pensions and retirement business conducted by offices for private individuals. The crucial objection, indeed, in the eyes of British actuaries is that the succeeding generation may simply refuse to join the scheme, and leave

[1] An Oxford or Cambridge college might invest the fund in its cellar. But it would then be necessary to charge the Fellows replacement cost for what they drank.

their predecessors high and dry. It is on this ground above all others that they reject 'distribution'. But the French literature, relying doubtless on the compulsory nature of the schemes, seems not to fear this bogy at all.

(*f*) The present income-tax rebates and other special privileges might not be granted to a new scheme.

These are formidable difficulties. 'Distribution' is obviously no panacea, and needs even more careful handling than orthodox insurance, with greater margins for error. But the British Ministry of National Insurance is not exactly bankrupt; the French committees for 'distributive' pensions have now, after 4 years of life, more than 300,000 premium payers; and the French banks' scheme is similarly flourishing so far. Impracticability, even without subsidy from the State or the employers, is a charge that will not stick. French actuaries, moreover, approve of 'distribution', as they feel that with prices rising rapidly there is no alternative. It is clear that an Age of Inflation requires quite different actuarial principles from the nineteenth century, and this the French profession has recognized.[1] It is, then, surely better to overcome the drawbacks than simply to expound them; especially since more orthodox suggestions seem quite insufficient to solve the problem.

**4.** To these suggestions we now turn. Most of them hinge on the fact that a pension scheme can be dressed up as a series of life insurance policies, one or more for each member: the policy maturing either on death or retirement, whichever is the earlier. It will be noted that a 'distributive' scheme can as easily include a life insurance element as a 'capitalization' scheme. In fact, the French committees provide, in addition to the pension, for a life insurance, sickness benefits, &c. But all we need to bear in mind at the moment is that pensions under the system of 'capitalization' are very often provided for by certain types of life insurance policy.

The first suggestion, then, is that policy holders, discontented with the prospective real value of their benefits, should take out further policies. But this insures against rising prices only at the cost of an exorbitant proportion of current income. It is also a queer answer to the complaint that one pays out good money to receive bad to say, 'Oh, well, if you want to receive enough bad money to live on in the future you must pay out now still more good money'.

Another suggestion is a more generous form of the with-profits policy.[2]

[1] They are considering a mixed system to combine the advantages of 'capitalization' and 'distribution' and to enable them to return to the former when prices are stable again.

[2] When a with-profits policy matures it is worth a guaranteed minimum (less than in the case of a without-profits policy) plus a bonus depending on the insurance company's profits. These first two suggestions were made by Mr. Hepburn in a letter to *The Economist*, 22 Sept. 1951.

It is true that the with-profits policy is the best hedge against rising prices now on offer. But insurance profits are due to good management, to unexpectedly high rates of interest, to variations in the rate of mortality, and such-like. Rising prices only contribute to insurance profits in so far as companies draw greater dividends from their equity holdings. Experience shows, however, that in the era of high taxation and dividend limitation dividends go up, if at all, at a much slower pace than the cost of living, so that a with-profits policy is quite insufficient against the sort of rise in prices we have experienced and will in all probability experience again (compare Table II). Another suggestion on orthodox lines would be the allocation of a larger portion of the profits of insurance companies to the policy holders. Would this be effective and sufficient protection for the policy holders, and would insurance shareholders consent to such sacrifice?

**5.** A third 'orthodox' solution is to abolish all contributory pension schemes, link benefits to current salaries, and put the whole burden of payment on the employer. This is the system of the British State in regard to its servants. It needs, clearly, to be backed by a rule similar to the French rule given above that no increase, or at any rate no increase defined as a cost-of-living increase, be paid to active civil servants without a similar percentage increase in the pensions of those who retired at that rank.

There is much to recommend this solution, and we have no quarrel with it. But to rely upon it alone, to the exclusion of all private voluntary schemes for individuals, would have serious consequences. First, it would render insurance companies and actuaries wholly superfluous in the pensions field. And since pensions schemes are fairly close substitutes for life insurance, the latter business would also severely contract, leaving little for insurance companies and actuaries to do at all. Secondly, the individual would have no chance of regulating his pension by the amount he saved, no chance of deciding for himself the proportion of his life's income he will enjoy now and the proportion he will enjoy when retired. Be he reckless or miserly, let him have larger commitments than the average when young, or the certain expectation of a fortune later on, he would have no choice. The general rate of pensions ($x$ per cent. of present salary of last post held), holds for all alike, and on the Procrustean bed of collective decision all individuals must lie. Thirdly, it would be impossible to insure except as an incident of one's employment. The power of employers would go up and the mobility of labour down. Fourthly, there is a certain moral beauty in contributory schemes, for various reasons given by Lord Beveridge.[1] These reasons are convincing and need not be repeated here.

[1] Cmd. 6404, paras. 273, 274.

The advantage to the employer, be it the State or a company, is also obvious and important. There is therefore still a very important though doubtless minor role for private, voluntary, contributory insurance as we now know it.[1]

6. The fourth orthodox solution is undoubtedly that preferred and recommended by British actuaries. Though many of them successfully promote such schemes they appear to be unaware of its fundamental weakness, or, as we would prefer to put it, its subtle unorthodoxy. This is, to link the staff pension not to contributions but to final salary, and then so to arrange contributions from staff and employer that the likely pension liability is in fact met. Clearly if the promotion ladder is subsequently broadened at the top,[2] or if employees are taken on at unusually advanced ages, unexpected liabilities will arise. Someone must bear these liabilities, and the schemes always provide that this someone be the employer. His liability is simply the annual amount required to make up the pensions, while the employees' contributions are a fixed percentage of their current salaries.

Now if the cost of living drives up salaries the employee appears to have complete cover, except from increases in the cost of living after his retirement. This is a very serious objection for a start, as medicine has much prolonged life after retirement, and in 20 years much may happen to the cost of living. If, as in France, there is a danger that the cost of living may go up by 20 times during a man's retirement, the scheme is useless, because no employer could accept a liability of that magnitude. But the more serious objection, in Britain at least, is the size of the liability imposed by the scheme upon the employer by rising prices. To take an extreme case, let prices and salary scales remain constant for 30 years and then double in a single year. Those who retire in the scheme's 32nd year will then have contributed on the basis of the old price level and benefit on the basis of the new. Aside from his own normal contribution, the employer must pay the whole of the increase in pensions that the higher leaving salaries of year 31 entail. If prices and salaries rise gradually his liability is somewhat reduced, but it will always be large because of the

[1] The distributive schemes outlined above, whether based on the 'points' system or otherwise, are clearly compulsory. But individual firms in the 'points' scheme vary, with the agreement of the employees, their rates of contribution in some respects. The natural consequence of such variations is a rise or fall in the amount of the benefit derived by the employees. It is fair, however, to admit that there is one element of choice compatible with any pensions scheme, even a compulsory non-contributory one: the beneficiary may be allowed to enjoy his stated pension in any form he pleases, say a lump sum or an annuity on his own life or an annuity on his wife's life.

[2] Which will often happen, men being what they are. For instance, in certain New Zealand offices enjoying such pension schemes the highest post is seldom held for more than one year, so that its pension benefits may be spread as widely as possible. Naturally this inhibits efficiency.

disparity between pensions and early contributions. Moreover, the rising prices will also increase his profits and his ability to pay. But much of this increase in profits is simply due to historical accountancy; we may doubt if controls and continuous inflation are really very good for profits, especially if they are reckoned net of the replacement cost of assets.

This scheme puts upon posterity, in the persons of the management at the time when one retires, the burden of finding (most of) the money. 'Distribution' divides this burden between one's successors as employees and one's employer's successors in a constant and reliable proportion (the current proportion between their contributions to the fund). This scheme shifts the burden in an irrational and unpredictable way towards the employer; and *pro tanto* it resembles the non-contributory State pension schemes. On the other hand, it could be taken to resemble 'distribution', in that the employee's contributions may be considered as paid straight out without funding while the employer finds the remainder as and when required. But in fact there is likely to be some stipulation about actually investing the money outside the firm, and in any case compound interest must be notionally added in order to arrive at the benefits, for the scheme is *supposed* to be funded.

Those who complain that one's successors may not shoulder this burden have to explain why they are so sure one's employer's successor will do so. True, he is probably a corporation, and so being immortal can be bound by a present contract. But is this security so much greater than that offered by a compulsory staff pensions scheme of the 'distributive' type for the whole of a given profession? The retired may appeal to their successors on the grounds of trade-union or professional solidarity, and on the grounds that they too will grow old. But how may they soften the stony entrepreneurial heart, especially when a firm may contract or cease to exist? Whereas in a 'distributive' system one may lose one's job, but the profession as such cannot disappear. There will always be bank employees, university teachers, solicitors, &c. And if a profession disappears altogether—a most unlikely hypothesis—its members will adopt another profession and in their new capacity continue to participate in the 'distributive' pension scheme, while interprofessional committees guarantee their right to pension in case of change of profession. Lastly, the interprofessional character of the 'distributive' schemes offer the big advantage of totalizing one's services in various firms, whereas under 'capitalization' schemes one may have worked each time 10 years in three different firms and yet not be entitled to a pension, if the relevant clauses of the scheme stipulate, as they often do, the loss of all rights to a pension before, say, 15 years of service. Until staff pension schemes are federated

in the same way as the British universities' F.S.S.U. they give less, not more, security than 'distribution' as practised in France.

We are not, however, against these schemes based on 'capitalization'. They have the important advantages of being traditional in form, approved by the actuarial profession, and already in operation in Great Britain. But it appears on balance very questionable whether they are better or worse than 'distributive' schemes. If employers wake up to their true nature they may even cease to be possible. The choice seems to hinge particularly on the expected rate of rise in prices. These schemes, as we saw, are supposed to be funded, and this presents us with the usual problem of whether compound interest will compensate for the rise in prices. While the French must be right to choose 'distribution' (prices in France have moved up 5 times between 1913 and 1938 and 20 times since the latter year, or 100 times since 1913), the British might be wise to stick to what they have. In the case of Oxford and Cambridge colleges and other producers' co-operatives they seem to be identical with 'distribution', for one's employer's successor is one's colleagues' successors.

**7.** There is at least one important unorthodox solution apart from the 'distributive' which is prima facie practical. It is that of Mr. Recknell,[1] as amended by Mr. Binns (in the discussion on Mr. Recknell's paper). This is strictly a life insurance scheme, but can of course be applied to pensions as we showed above. The insurance company invests the premia of the insured in equities, the value of which it is hoped will keep pace with the rise in prices, and thus enable correspondingly rising benefits to be paid. The premia are varied to keep a constant real value. But equities, as Mr. Recknell admits, have not in the past kept pace completely with rising prices, and are still less likely to do so in the future, what with dividend limitation, nationalization, and the increasing weight of taxes on business. Further, in order to preserve the real value of the income from the investment, dividends must also rise with rising prices; and this is still less likely. The course of the cost of living, equity prices, and dividend payments in recent years is given in Table III, for three countries.

Before 1939 the performance of equities in all three economies was better, but that period is hardly relevant to our present problem of controls and continuous inflation, so we may accept 1939 as a starting-point. One observes how inadequate the performance of equities has been and how wide the gap has grown between them and the cost of living since 1939. Even in the free French economy they do not show up very well. This is a very serious objection to the investment of a pension fund in equities, but it remains to be calculated whether the almost total loss of

[1] *Transactions of the Faculty of Actuaries*, vol. xix, part 1.

interest in the 'distributive' scheme is not greater than the combined loss of some dividends and some capital in the equity scheme. Further, the equity scheme preserves nearly all the characteristics of ordinary insurance, and would thus be safer, more convenient, and more acceptable to the companies. Mr. Recknell's proposal deserves very serious consideration.

Note that this scheme too is a sort of with-profits policy, but again of a

TABLE III

| | *United Kingdom* | | | | *France* | | *U.S.A.* | |
|---|---|---|---|---|---|---|---|---|
| *Years* | *Price of industrial shares* | *Dividends on shares* | *Cost of living* | *Net agricultural rents (approx.)* | *Price of industrial shares* | *Cost of living (food only)* | *Price of industrial shares* | *Cost of living* |
| 1938 | .. | .. | 99 | 100 | .. | .. | .. | .. |
| 1939 | 100 | 100 | 100 | .. | 100 | 100 | 100 | 100 |
| 1940 | 83 | .. | 117 | .. | 111 | 119 | 92 | 101 |
| 1941 | 89 | .. | 129 | .. | 346 | 138 | 85 | 105 |
| 1942 | 107 | .. | 138 | .. | 564 | 161 | 75 | 117 |
| 1943 | 129 | .. | 144 | .. | 538 | 208 | 100 | 124 |
| 1944 | 140 | .. | 147 | .. | 556 | 248 | 107 | 126 |
| 1945 | 152 | .. | 157 | .. | 618 | 350 | 130 | 129 |
| 1946 | 169 | 115 | 164 | 103 | 797 | 598 | 151 | 140 |
| 1947 | 172 | 129 | 173 | 89 | 1,000 | 966 | 135 | 160 |
| 1948 | 155 | 130 | 188 | .. | 1,045 | 1,540 | 138 | 172 |
| 1949 | 139 | 131 | 192 | 66 | 955 | 1,680 | 135 | 170 |
| 1950 | 139 | 132 | 194 | 74 | 931 | 1,870 | 165 | 171 |

Sources: U.N. *Statistical Yearbook.*
British cost of living: national income white papers.
British net agricultural rents: compiled from Table VII of the Country Landowners Association's *Enquiry into Agricultural Rents*, Dec. 1951. 177 estates in England and Wales are involved; it is doubtful if they are a random sample.
British dividends: compiled from the Actuaries' Index by multiplying the prices and yields of ordinary shares. This gives an index of dividends before tax, and neglects bonus issues. We are indebted to Mr. Seers for this procedure.

very unorthodox kind. We may add that if the equity scheme is otherwise preferable to the 'distributive' scheme, a strong case arises for the creation of such equities as will make the scheme really proof against rising prices. These could be, first, the normal equities of named firms, which all political parties should agree were not to be subject to E.P.T., dividend limitation, or nationalization (to mention only the three grossest ills that equities are heirs to); in return the equities would be tenable only by life assurance offices, the distribution of a certain proportion of gross income would be compulsory, and sums put to reserve would be taxed in the normal manner.[1] We agree, however, that this suggestion is not very

[1] This disposes, we think, of the objection that the named firm, as opposed to the insurance company, would receive any form of tax rebate.

practicable. For the portfolio of an insurance company should be as varied as that of an investment trust; the grant of the required privileges to a great number of equities would deprive the Exchequer of an important source of revenue; and the political presuppositions are quite otherworldly. Secondly, government securities could be created, the capital and interest of which were linked to the cost of living; the interest could be very low, and the securities would again only be tenable by life assurance offices. Perhaps, however, it is too much to ask of the Welfare State that it help individuals to help themselves.

8. Another possibility is practically within the public's reach at present. Although it hardly affects pensions, it is worth mentioning. Life policies can mature as simple lump sums on death or retirement, or, in the case of retirement, as annuities. It is chiefly in the latter form that they are useful for pension schemes, but of course the orthodox annuity can lose real value between retirement and death. If, however, the simple lump sum is preferred, the life policies can be modelled on the fire policy. The fire policy consists quite simply of annually taking on a bet with the insurance company that your property *does* catch fire this year. The company bets you a sum which is meant to be the value of the property that it does not, and your bet, the premium, is a certain percentage of that. As the price level rises policy holders can, and regularly do, increase the stated value and the premium. Not otherwise do the clients of bookmakers and football pools compensate themselves for rising prices. It is enough only that prices do not rise appreciably between the placing of the bet (payment of the premium) and the occurrence or non-occurrence of the stipulated event.

Property does not perceptibly increase its liability to catch fire from year to year, and fire assurance offices are reasonably free from the risk that only those will increase their premia and assured values whose property has become more combustible. With life this is not so: it is found with policies permitting the holder to increase the premium without renewed medical inspection that only those holders make increases who take a low view of their health. Evidently what is needed is a policy in which the premium payable and the sum assured compulsorily increase (or, *per impossibile*, decrease) with every change of salary due to the cost of living. It has been represented to us that this increase in premium 'introduces a compulsory feature which is foreign to the tradition of life assurance'. But this is not so, if the contract is signed willingly. Indeed, the boot is on the other foot: the normal type of policy involves a compulsory decrease in the *real* value of the sum assured and of the premium, which at any rate ought to be 'foreign to the tradition of life assurance'. Increases in salary defined as being due to promotion rather than the cost of living would not of course come within the policy. They would require

a separate policy, taken out after renewed evidence of health. It might indeed be difficult to sell such policies, with their apparent increase in premium, to the healthier members of the general public. But there would surely be no difficulty at all in incorporating them in a compulsory retirement scheme.

The business, then, of pure life insurance offers no material difficulty at all. It is simply a question of getting over the very real psychological obstacles in the minds of the public and the life offices. Simple life insurance is betting, and betting is immune from inflation. It is the pensions schemes, and the life policies adapted to their needs which involve saving and investment as well as betting, that require urgent attention.

**9.** In conclusion, and very briefly, how inflationary are these schemes? So long as employees and employers can be induced to lend money to insurance companies or pension funds for fixed money claims the deflationary effect is considerable. For good money is invested today while the same nominal amount of bad money is to be released tomorrow. The public's command over goods and services is reduced. Moreover, since they only owe fixed money claims the insurance companies and pension funds are happy to take up government debt which in its turn is expressed in fixed money terms; so that a type of security which a private individual would be unwise to hold finds a ready market. To be sure, the government could issue more attractive securities which would also in their way be gilt-edged, as we suggested in section 7. But why should it bother if it can get away with its present securities?

If Mr. Recknell's equity scheme is adopted the market for government securities collapses and equities are pushed to great heights. New issues by private enterprise would concentrate on equities and this might induce the government to borrow on more attractive terms. The inflationary impulse of this is small, if perceptible at all. But the public conserves more of its purchasing power than at present, and this is inflationary. But the same applies to 'distribution', which on the other hand requires no securities at all, as it avoids funding.

If the number of participants in either Mr. Recknell's or the orthodox scheme expands the fund piles up during the expansion. This is saving, and of course deflationary. *Per contra*, a contraction in numbers is inflationary. On the whole, expansion is more likely than contraction as the population grows and staff welfare measures are extended to an ever larger proportion of it. The introduction of 'distribution' works a sharp contraction in the first two schemes, unless it is superposed on them and does not hinder their growth—a most unlikely case. The process of introducing it is therefore inflationary, as it is tantamount to a reduction in savings. But once the scheme is working there is no loss of savings, unless we

count the non-occurrence of the expansion in the orthodox pension funds that would have taken place as a loss of savings.

It cannot be too strongly emphasized, however, that all benevolence is inflationary, especially if directed towards the old, the weak, or children. If reforms of this kind are put off on monetary grounds they will never be introduced, and the Age of Inflation will also be the age of injustice.

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# WAGE STABILIZATION IN THE UNITED STATES

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In September 1950, during the week the trade unions in Britain, at their annual Congress, were bringing to a close the period of wage restraint which had been accepted by them since the publication, in February 1948, of the White Paper on Personal Incomes, Costs, and Prices, the United States Congress was laying the foundations of what has since become a fascinating attempt to work out and administer, without destroying free collective bargaining or prohibiting strikes, a national wages policy. Unlike the British approach, which rested almost entirely on voluntary restraint, the American method has been that of establishing a government agency with the legal authority to control wage movements. An examination of the course of this American experiment is of particular interest whilst inflation still continues; it is also directly relevant in view of the fact that the T.U.C. has twice summarily rejected, in 1950 and 1951, resolutions calling upon the General Council to examine the wisdom of this country pursuing a national wages policy of an almost identical type.[1] Strict comparison between social experiments in different countries, though the temptation is difficult to resist, is, of course, risky when the economic, political, and cultural backgrounds are far from alike.

Under the powers conferred upon him by the Defence Production Act,[2] the President of the United States proclaimed a national emergency on 16 December 1950 and announced the establishment of an Office of Defence Mobilization, with Charles E. Wilson, President of the General Electric Corporation, as Director. This office was given power 'to direct, control

[1] At the 1950 Trades Union Congress Mr. A. L. N. D. Houghton, M.P. (Inland Revenue Staff Federation), moved the following resolution: 'That in the opinion of this Congress, acceptance by the Trade Union Movement of the economic planning essential for the pursuit of full employment and other social objectives increases the responsibility of Trade Unions for wage movements and wage structure since their influence on the price level, on the distribution of manpower, and on productivity is a matter of general concern. Congress recognizes that new problems of wages policy arise on account of full employment and economic planning, and is of opinion that the General Council should consider the setting up of a National Wages Board constituted on the lines of the Industrial Court with an independent chairman and independent members and other members drawn equally from workers' and employers' panels. The General Council is therefore asked to examine and report upon the proposal to set up a National Wages Board with the following functions:

(*a*) the supervision and approval of the decisions of all statutory wage-fixing bodies (Wages Councils, &c.);

(*b*) the supervision and approval of all voluntary collective agreements relating to terms of employment, which would have to be registered with the Board;

(*c*) the co-ordination of the work of all arbitration tribunals, acting itself as the supreme arbitration authority;

(*d*) the initiation of inquiries with a view to recommending reforms in existing wage structures.'

[2] Public Law 774, 81st Congress, 8 September 1950.

and co-ordinate all mobilization activities of the Executive Branch of the Government including but not limited to production, procurement, manpower, stabilization and transport activities'. Several new agencies were set up to carry the Administration's programme into effect. Mr. Eric Johnston, well known in this country from his negotiations for the American film industry, was appointed Administrator of an Economic Stabilization Agency with two subdivisions, the Office of Price Stabilization and the Wage Stabilization Board.[1] These two sub-agencies were charged with the task of working out and administering the detailed policies of price and wage control for the Economic Stabilization Agency.

This article is concerned mainly with the operations of the Wage Stabilization Board and not with the other aspects of the Economic Stabilization Agency. Although the decisions of the Wage Stabilization Board are in effect decisions of the Economic Stabilization Agency, the board has a good deal of independent authority, but it should be borne in mind that its actions are influenced by the wider policy of economic stabilization which the government has been authorized by Congress to pursue.

The Wage Stabilization Board was established on a tripartite basis, its nine members being appointed to represent the trade unions, industry, and the public—three from each—with Mr. Cyrus S. Ching, head of the Federal Conciliation and Mediation Service, as Chairman. On 26 January 1951 the Economic Stabilization Administrator issued an order establishing ceilings on prices of materials and services, and, following the provisions of the Defence Production Act, which requires that upon the issuance of such an order wages and salaries must also be stabilized, a general regulation was made freezing all wages and salaries at levels not greater than those prevailing on the previous day until such time as the Wage Stabilization Board authorized an increase.[2] This step was not regarded as more than a temporary expedient until the Wage Stabilization Board had developed a policy for the future. Within a few days the board made its first important decision when it permitted the United Mineworkers to have the benefit of an increase in wages which had been negotiated but had not yet been put into effect prior to the regulation. This decision seemed ominous to many people, for Mr. Lewis had, with his usual facility, sensed that the wages stop was coming and seized the opportunity to secure a substantial advance for the miners, and now the barrier which had come

[1] On 10 May a separate Salary Stabilization Board was set up, composed of five public members, with the chairman of the Wage Stabilization Board as an *ex-officio* member. In the exercise of its functions the board must 'conform to the regulations, policies, orders, and decisions of the Wage Stabilization Board to the fullest practicable extent . . .'. General Order No. 8, Economic Stabilization Agency.

[2] General Wage Stabilization Regulation No. 1.

down was being lifted slightly to allow them to enjoy it. However, to have provoked a miners' strike would not have been an auspicious start for the board.

During the few weeks following the wage freeze the board tried unsuccessfully to arrive at an agreed policy. The problem immediately confronting it was that the freeze had created considerable inequities between industries, as any wage freeze is bound to do. In 1949 wage rates had remained practically stable, but a number of unions had followed the pattern set by the Mineworkers and United Automobile Workers and had secured, instead of wage increases, pension, health, and welfare benefits, paid for in whole or in part by the companies. Although money wages had not risen much during 1949 prices had fallen slightly, so that real wages had increased by a trifle; this trend, however, was reversed in 1950 when prices began to rise. From shortly before the outbreak of the Korean war until August the pace of the climb upwards was rapid, then it slackened until November, when a rapid acceleration again began which continued until the end of January 1951, when the price and wage stabilization orders were made.[1]

At the beginning of the year unions were willing to accept contracts which gave them only a few cents an hour increase, but by the end of the year, partly as a consequence of the rise in the cost of living and partly because wage controls were feared, agreements were being made which gave increases of 10, 15, and 20 cents an hour. Many employers were ready to agree to substantial increases in order to be certain of securing a future supply of labour. Not all industries, however, were prosperous, and not all employers were either ready or in a position to be generous—about

[1] The 'Consumers' price index for moderate-income families in large cities' measures 'average changes in retail prices of selected goods, rents and services purchased by wage earners and lower-salaried workers in large cities. Until January 1950 time to time changes in retail prices were weighted by 1934–36 average expenditures of urban families. Weights used beginning January, 1950 have been adjusted to current spending patterns.' The monthly average of this index during 1948 was 171·9, 1949 170·2 (1935–9 = 100). In the course of 1950 the Index moved as follows:

| | | |
|---|---|---|
| | 15 January | 168·2 |
| | 15 February | 167·9 |
| | 15 March | 167·4 |
| | 15 April | 168·5 |
| | 15 May | 169·3 |
| | 15 June | 170·2 |
| | 15 July | 172·5 |
| | 15 August | 173·0 |
| | 15 September | 174·6 |
| | 15 October | 175·6 |
| | 15 November | 176·4 |
| | 15 December | 178·8 |
| 1951 | 15 January | 181·5 |
| | 15 February | 183·8 |

Source: Bureau of Labour Statistics, *Monthly Labour Review*.

40 per cent. of wage-earners had no increases at all in 1950. Following such a period of rapid change the wage freeze inevitably created a good deal of injustice; had the economic stabilization programme been put into operation six months earlier many of the acute problems which the Wages Board now had to solve might have been avoided.

On 16 February the public and industry members of the board adopted a formula, without the support of the trade-union members, to deal with the situation which the wage freeze had created.[1] The essence of this formula was that the board would permit wages to rise by 10 per cent., where they had not already done so, above levels being paid on a base date fixed as 15 January 1950. No application for permission to bring wage levels up to this amount above the wage base was necessary provided complete information about all such increases was filed with the board within ten days of the increase being given effect. The board reserved the right to revoke any increase which it considered exceeded the 10 per cent. limit. Where it could be established that the wage rates prevailing in an industry on the base date were abnormal the board was ready to authorize a different base, and in cases where 'the critical needs of essential civilian or defence production require it' the board announced that it would consider applications for increases above the 10 per cent. limit. In the latter instance such increases would be confined to 'rare and unusual' cases 'where there are serious manpower shortages and in which other governmental agencies concerned with production and manpower problems certify to the Board that a concerted programme has been undertaken to remedy the shortages and that an increase in wages, salaries or other compensation is indispensable to attract required labour to or retain in essential civilian or defence industries or plants'.[2] The board was anxious to avoid encouraging industries to seek special favours because they were producing important commodities, and at this stage it did not consider the redistribution of man-power to defence plants a matter requiring its urgent attention. This aspect of the board's policy was in sharp contrast to the British White Paper, which emphasized the undermanning of an essential industry as a major reason justifying a wage increase.

Though the public and industry members of the board thought that the 10 per cent. allowance was a fair attempt to correct the inequities that had arisen because of the disparities in the movement of wages and salaries, and the rise in the cost of living in the pre-freeze period, they also recognized that it was likely that the cost of living would go on rising and promised to review this policy in the light of the April 1951 index number of the official consumer price index, before 1 July. The trade unions were not prepared to accept a 'catch up' percentage of 10, insisting that it should

[1] General Wage Regulation No. 6. Issued 27 February 1951.

[2] Ibid.

be at least 12, and withdrew their representatives in protest. But it was not so much this particular policy of the Wage Stabilization Board that influenced their decision as distrust of Mr. Wilson, who is not regarded as a friend of organized labour, and general dissatisfaction at their relative exclusion from the administrative and policy-making machinery which he had built up for the carrying out of the defence mobilization programme. The trade unions demanded a greater degree of representation throughout the whole of this organization and pressed for direct access to the President —as they had enjoyed with Mr. Roosevelt in war-time—instead of having to go through Mr. Wilson's office. A united labour movement determined not to take any further part in the organization of the defence effort unless its grievances were alleviated raised serious political problems for Mr. Truman. He met them by appointing a National Advisory Board on Mobilization Policy, on which labour was equally represented with industry, with the function of advising him directly on any aspect of the defence programme.[1]

One of the first decisions of the National Advisory Board was to recommend that the Wage Stabilization Board, which had ceased to function after the trade unions had walked out, should be reconstituted with eighteen members instead of nine, with six being drawn from industry, six from the trade unions, and six to represent the public interest. This was accepted and a new board was set up, the opportunity being taken to appoint a fresh chairman who was not associated with the previous conflict. A further concession won by the unions was that in future the board would have authority to settle disputes which threatened to interrupt defence production; this followed the precedent of the War Labour Board.

Disputes may be submitted to the board, either by agreement on both sides, when, if so desired, the board can give a binding award, or by the President after he has certified that the dispute constitutes a threat to defence production—in which case the board has power only to recommend terms of settlement. This additional function of the board is not to replace other procedures for settling disputes but to be supplementary to them; it has, however, caused a certain amount of departmental jealousy and given rise to criticism from members of the Republican Party who saw in the new provision an attempt to circumvent the Taft–Hartley Act, which, indeed, was the reason why the trade unions were anxious for the change. So far only five major disputes have been submitted to the board for settlement, all by the President.[2] In four of the cases the board persuaded

[1] Other concessions were also made. Representatives of the trade unions were appointed as personal advisers to the directors of all the main agencies which had been established.

[2] The board has also been asked by both sides to arbitrate for them in two instances.

unions on strike to return to work, undertaking to make recommendations later; this it has so far done only in one case, when its findings were accepted by unions and employers. The board faces a more crucial test of its ability to arbitrate successfully in the fifth case, which has been submitted to it at the time of writing, for it involves the key defence industry, steel, where the two sides have reached a deadlock and a strike may be very difficult to avoid without substantial concessions.[1]

Outstanding among the problems which the board had to tackle was that of the cost-of-living sliding-scale agreements which affected the wages of over three million workers. This question was extremely explosive, for it was a basic element in the 5-year contract between the United Automobile Workers' Union and the General Motors Corporation, which had been signed in 1949, and Mr. Reuther, the President of the U.A.W., made it clear that his union would not be prepared to continue with the rest of its agreement—which promised three more strike-free years—if the board abrogated this clause. During the interim between the old and the new boards Mr. Johnston bowed to this pressure and issued an order permitting cost-of-living agreements to exceed the 10 per cent. formula if they had been negotiated before the wage freeze.[2] This decision was obviously discriminatory against those workers who were not on cost-of-living sliding scales and encouraged the unions to press for further concessions. The same kind of difficulties were experienced in this country during the wage-restraint period when unions refused to abandon their rights to increases under cost-of-living agreements.[3]

On 24 April 1951 Wage Adjustment Order No. 1 was issued by the board. This order authorized an increase to non-operating railway workers, to which they were entitled under a cost-of-living sliding-scale agreement made after 25 January 1951, although it exceeded the 10 per cent. formula of Regulation 6. Then on 18 May the board made a further concession when it approved an agreement which had been arrived at between the 'Big Four' meat-packing companies and four trade unions, which also exceeded the 10 per cent. formula. The board justified these increases on the grounds that these were exceptional cases in which hardship would be

[1] Under the Conditions of Employment and National Arbitration Order, S.R. & O. 1305, which was in existence throughout the wage-restraint period in Britain, the Minister of Labour was empowered to refer a dispute to the National Arbitration Tribunal (after certain conditions had been fulfilled); only if he failed to refer a reported dispute within 21 days were strikes legal.

[2] General Wage Regulation No. 8, 8 March 1951.

[3] There was some important difference in attitude between the British and American trade unions on this question. The unions in America, whether or not under cost-of-living agreements, have been united in pressing the Wage Stabilization Board to take the rise in the cost of living into account when formulating its policies. In Britain those unions not on sliding-scale agreements were critical of those that were for jeopardizing the wage-restraint policy by their refusal to forgo wage increases.

inflicted if the formula was strictly followed without making allowance for the fact that the wages of these two groups were lagging behind on the base period of January 1950. It also indicated that it was unfair to treat cost-of-living agreements more favourably than re-negotiated contracts where unions were not on sliding scales. Having made these concessions it was no surprise when thereafter the board reviewed the situation its decisions had created and promulgated a new regulation which permits wage increases, without authorization being necessary, to an amount not exceeding the rise of the consumer price index from January 1951, in addition to the 10 per cent. previously allowed.[1]

In the absence of a cost-of-living agreement with a union an employer is now entitled to give an increase in wages up to the level of the rise in the cost of living provided this is done not more frequently than once every six months. This enables unions to have a choice of whether they negotiate cost-of-living agreements or adhere to the reopening of contract negotiations at the end of a period of time—most American collective agreements are on an annual basis—knowing that they will have at least the percentage rise in the cost of living for which to bargain. The advantage of the latter procedure to the unions preferring it is that they do not suffer the automatic reduction in wages required by a sliding-scale agreement should the cost of living fall.

With the adoption of this regulation the Wage Stabilization Board made the cost of living the basic factor determining future wage changes. In the light of its decisions it is almost certain that the board would have revised its 10 per cent. formula to give all unions the benefits enjoyed by those with cost-of-living agreements, but the amendment by Congress, in July 1951, of the Defence Production Act, which forced the Office of Price Stabilization to raise its price ceilings on many commodities, made this step inevitable. When signing the amendments to the Act the President, who had opposed them, stated that 'to the extent that this Act permits prices and the cost of living to rise, it will be necessary to allow reasonable adjustment in wages'.

## II

The late Chairman of the Wage Stabilization Board (Dr. George W. Taylor) stated on his retirement that 'in developing its policies, the WSB has not only the objective of wage stabilization, but must also keep in mind three others—the preservation of industrial relations stability, the preservation of collective bargaining to the fullest possible extent, and the fostering of maximum defence production. Policies developed by the Board must represent a balancing of these four objectives. They cannot

[1] General Regulation No. 8 (Revised) Cost of Living Increases, 23 August 1951.

be focussed on a single objective.'[1] The cost of living is one of the basic factors to which the board has linked wage movements, but it is not the only factor to which it has regard, for in that case the three additional objectives mentioned by Dr. Taylor could not be fostered.

Balancing these objectives implies that the Wage Stabilization Board does not attempt to impose a predetermined wages pattern, but, as far as possible, allows wage levels to be decided by collective bargaining. Although the board has laid down general principles to be followed, it is in practice permitting pressure from unions and employers to determine relative wage movements. By far the largest number of cases coming before the Wage Stabilization Board have been demands to allow firms to adjust their wage rates so as to bring them into line with other firms competing for scarce labour. During an inflationary period, when the labour force is fully occupied and profits are high, wage rates tend to move closer together. If workers do not obtain the same rates as prevail elsewhere they will adopt an aggressive policy to get them, or seek the better-paid employment, so that employers are also anxious to bring their wage levels up. In effect, the policies of the Wage Stabilization Board during the summer of 1951 worked to prevent the narrowing of wage differentials between plants that would have taken place had wage movements been free of the limits imposed by the 10 per cent. formula. Although the board had made provision to meet cases of 'base date abnormalities' and the 'rare and unusual' cases where shortage of man-power was hampering defence production, these exceptions did not constitute a solution to the general problem of so-called 'inter-plant inequities'. Many firms with plants engaged on defence contracts were also producing goods for civilian use, and wage rates for similar grades of skill employed under the same roof cannot be separated according to the destination of the job without causing industrial unrest. If wage rates were allowed to rise in a plant simply because it had obtained a defence contract this would be discriminatory against others less fortunately situated, even though they might be producing similar civilian goods.

After considering the problem for some time the board devised a formula to meet the demands which was based on finding 'an appropriate group of establishments in an appropriate industry or area with whose rates the petitioner's rates are to be compared. This comparison group of establishments shall be the one which is best adapted to preserve normal patterns of wage settings.'[2] This phase of the board's policy followed previous major decisions which have been based on accepting key agreements as anchor points for its policy. It may well solve the problem of inter-plant

[1] *A Report on Wage Stabilization*. W.S.B., August 1951.
[2] Wage Stabilization Board release 117, 28 September 1951.

inequities, but only at the expense of being more inflationary than stabilizing, as the unions are certain to regard as 'normal patterns' those wage levels set by the unions which usually lead the others in settling new rates. This policy of correcting inequities by allowing those behind always to catch up the leaders could seriously threaten the board's stabilization objective; everything depends on the ability of the board to control key wage contracts in the future, and this, for political reasons, may be very difficult.

Another problem which confronts the Wage Stabilization Board is that posed by union demands for pension, health, and welfare programmes. Since the United Mineworkers Union and the Union of Automobile Workers set the pattern with agreements which secured these benefits, company-provided schemes of the pension and welfare type have become major objectives of collective bargaining. During the summer the board set up a special sub-committee to study this problem, which has reported recently. The public members, supported by the trade-union representatives, have recommended that health and insurance plans should be virtually free of control, and that company-provided pension schemes should only require the approval of the board if they clearly go beyond a pattern already established in the industry where they are to be introduced. The industry members of the sub-committee have issued a minority report which states that 'The setting up of new programmes and the liberalising of existing programmes under today's circumstances will have inflationary effects.'[1] They therefore recommend that all new benefit schemes, unless the employee is to pay at least half of the net cost, or where they are merely an extension of an existing programme to a further group of workers by the same employer, should be subject to the approval of the board. So far the board has made no statement as to the policy it will adopt, but there are indications that it is likely to be lenient.

Pressure on the board has come not only from the trade unions; employers have been concerned that the policy should not result in a freezing of wage and salary relationships inside the factory which would make it difficulty for managements to encourage incentive and responsibility. The board after consideration of these questions issued a regulation in August which laid down rules under which an employer can make adjustments of wages for merit performance, length of service, promotion, new and changed jobs, overtime, and other special payments.[2] Employers are permitted to continue past practices, but not to exceed the total amount of their wages bill used to meet these special payments in 1950; or they may if they wish adopt a '6 per cent. plan' which limits the total of such

[1] *New York Times*, 1 November 1951.
[2] General Wage Regulation No. 5 (revised), 6 August and 17 August 1951.

additions to 6 per cent. of the aggregate straight-time rates of the employees in a working group. The aim of this regulation is to provide the maximum degree of flexibility, yet prevent employers from making a 'flank assault upon stabilization'.[1]

The problem of preventing employers from giving concealed wage advances by promotions and special additions had been a considerable headache to the War Labour Board[2] as they are extremely difficult to control; it will probably prove to be no less so for the Wage Stabilization Board. Although penalties for violation of a wage stabilization order are severe, with so many thousands of firms involved and the ramifications of the board's policy so extensive, it is an almost impossible task to check the accuracy of all details of wage payments filed by employers. It is therefore necessary to place a good deal of reliance on their honesty. Some illegal increase of wages is admitted, but so far it does not seem to be great enough to alarm the Wage Stabilization Board unduly.

The board has established a Review and Appeals Committee and appointed Enforcement Commissions, nationally and regionally. These enforcement commissions sit in quasi-judicial capacity to hear cases of alleged violation of the board's regulations, with the power to subpoena witnesses and take evidence on oath. The duty of bringing charges before the enforcement commissions is the function of the Enforcement and Legal Division of the Wage Stabilization Board, which during August had over 2,000 cases under review for investigation.[3] The accused have the right to appeal from a regional to the National Enforcement Commission, which is the final judge. The commissions are free to order an offending employer to 'cease and desist' and to recommend such punishment as they think fit, which mainly consists of recommending other government departments to take action. This may include the cancelling of defence contracts, not allowing excess wages to be charged against income-tax, and judicial proceedings. Penalties provided under the Defence Production Act, which can only be imposed by a court, for contraventions of wage-regulation orders are heavy, up to a $10,000 fine, one year in jail, or both.[4]

## III

A major complaint against the Wage Stabilization Board has been that it took several months for a petition to be processed. From May to August roughly 3,500 petitions were decided by the board, but over 7,000 were outstanding at the end of that period. To remedy this situation and decentral-

[1] *A Report on Wage Stabilization*, W.S.B., 31 August 1951.
[2] See S. A. Levitan, *Ingrade Wage-Rate Progression in War and Peace*, New York, 1950.
[3] Dr. G. W. Taylor, ibid.
[4] Enforcement Procedure, Resolution 35, 25 July 1951.

ize the administration of policy fourteen regional boards, which are minor editions of the national board in their composition and function, have been set up. A substantial degree of authority has been delegated to them, but petitions which raise issues of policy not previously decided by the national board and certain other issues, such as all petitions coming within the designation of 'rare and unusual' cases, have been reserved by the national board.[1]

The Wage Stabilization Board and each of its regional organizations is serviced by a staff of economic analysts, man-power and other specialists. Each petition for a wage increase is analysed in the light of past decisions and the current economic and industrial situation. The cases are then submitted to the board, accompanied with the recommendations of the Case Analysis Division, for its ruling. Thus the procedure is one of expert consideration quite unlike the procedure of the British National Arbitration Tribunal and its successor the Industrial Disputes Tribunal. The difference in procedure arises from a difference in function.[2] The Wage Stabilization Board is not primarily a court of equity deciding on questions at issue between two parties. Apart from the occasions when it is specifically asked to act as an arbitration tribunal, the board is concerned only with the approval, or otherwise, of wage changes already agreed upon by unions and employers, and, indeed, unless petitions are submitted jointly the board can give no decision, except in cases where no union exists, when an application from an employer alone will be accepted for consideration.

The Wage Stabilization Board in trying to evolve and administer a national wages policy to combat inflation and assist defence production and at the same time to avoid doing violence to collective bargaining and industrial relations, must necessarily be sensitive to economic and political pressures. Its policy could not be unduly stringent,[3] and it may be doubted whether the board has kept aggregate wages much below the level they would have reached had the board not been in existence. Some unions have probably secured less than would otherwise have been the case had the board not been there, but the awards of the board allowing wage advances have tended to encourage other unions to demand and obtain the same percentage increases—when they would have been content with less—simply because this was the amount which official fiat said they might obtain.

[1] Delegation of Authority to Regional Boards, Resolution 64, 18 September 1951.

[2] Even after the White Paper of 1948 the National Arbitration Tribunal did not change its policy of deciding each case on its merits and resisted the feeble attempts to push it in the direction of becoming the administrative instrument of a national wages policy.

[3] The proportion of petitions for increases above the basic formula which have been refused entirely has not been very great.

Thus far one of the main effects of the board has been on the structure of wages, and this has been more by accident than design. The operations of the board have tended to slow down the rate of increase for the unorganized workers, because they have no union to press their claims and the trade-union members of the board are not particularly interested in their fate. The same is roughly true of those organizations in small unions not affiliated to the C.I.O. or the A.F. of L. In other words, no matter how concerned the public members of the board may be at this development, if both unions' and employers' representatives are indifferent to the interests of the unorganized there is little they can do to remedy the situation. The effect of this discrimination against those in a weak bargaining position is likely to be the stimulating of further trade-union organization and the strengthening of the two big federations at the expense of the independent organizations.

It is recognized by the board that in the absence of really effective measures taken by Congress to control inflation and stop prices from rising the most the board can do is to try to prevent the movement of wages from adding much to the inflationary pressure by slowing down their rate of advance, and even this modest result is not easy to achieve when the trade-union movement is strong and independent, and the legal power of the Wage Stabilization Board to enforce its policy is limited by practical considerations. The board has been helped by the relative steadiness of the consumer price index after the stabilization programme was introduced,[1] but the index has marked sharp price increases since the end of the summer. Should prices continue to rise, as they are expected to do, the board's cost-of-living policy will automatically allow wages to follow them, but this will not assuage growing trade-union criticism of the stabilization policy.

Real wages, for a large section of industrial workers, have changed little since the introduction of stabilization, but the feeling is developing that they are falling behind as prices rise.[2] The unions are now emphasizing that to tie wages to living costs is to deny workers a share in the benefits from improved efficiency. Had wages simply followed living costs since 1939, the average earnings of A.F. of L. trade unionists, which were $60.80 for a 40-hour week in April 1951, would be only $46.10,[3] said a senior A.F. of L.

[1] The relative stability in prices during the spring and summer of 1951 might have been due as much to the slackening of consumer demand—private savings have increased during this period—because of intensive stocking up during the previous nine months, as to the stabilization programme.

[2] The gross average weekly earnings index shows an increase from 267·2 in February to 270·6 in August; over the same period the consumer price index moved upwards from 183·8 to 185·5; since then prices and wages have gone up farther, but spendable incomes may have been reduced in real terms because of increased taxation. The effect of taxation has been a major point of emphasis in trade-union journals during the autumn.

[3] *Monthly Labor Review*, October 1951.

official a short time ago. In October the A.F. of L. members of the Wage Stabilization Board proposed that the board should 'approve the policy of permitting wage and salary increases which result from more efficient production'.[1]

The linking of wages to the annual increase in production has aroused considerable discussion since the board approved the clause in the U.A.W.–General Motors agreement which provides a 4 cents per hour yearly increase based on productivity. Four cents per hour is well above the 1 cent per hour allowed for every 1 per cent. increase in the cost-of-living index, which the board permits under its present basic formula. This agreement is a pioneer venture based on the assumption that the General Motors Corporation will increase its productivity annually by at least 2½ per cent. The board has not yet decided its attitude towards contracts of this kind negotiated since January 1951, but Mr. Johnston told the C.I.O. Convention in November that 'production wage increases were fair and reasonable ... and not unstabilizing'.[2] Similar views have been expressed by the late chairman of the board and its present chairman, Nathan P. Feinsinger, and it is therefore probable that in the near future the board will decide to alter its basic policy and sanction agreements which tie wages to production.

The board may get out of its present difficulties by changing its policy in this way so as to permit much more substantial wage increases, but the tying of wages to increases in productivity is full of pitfalls. If a general average production increase is taken as a base for increases in wages, those who are critical of this approach think that it will still penalize the workers in the more efficient industries and not allay discontent. On the other hand, if an attempt is made to base wages on increases in individual plants, some workers will be left behind and others will be able to go ahead at a gallop. Whichever method the board adopts, it will be a concession to pressure for higher wages. The record of the Office of Price Stabilization is not wholly dissimilar from that of the Wage Stabilization Board. Faced with constant economic and political pressure to concede price increases, it has made one concession after another, and the one attempt which the Economic Stabilization Agency has made to prevent wage increases being used as a reason for raising the price control ceilings is probably illegal under the amendments to the Defence Production Act.[3] When the Wage Stabilization Board approved the annual productivity increase in the U.A.W.–General Motors contract it did so on condition that the increase

[1] *Labor's Monthly Survey*, October 1951.
[2] *New York Times*, 12 November 1951.
[3] The Capehart Amendment allows manufacturers to pass on all increases in costs incurred up to 26 July 1951.

should not be used as a means of securing a price increase, but any attempt to make this part of a general policy covering future productivity increases would be fiercely resisted. Unless, therefore, Congress is prepared to make price controls really effective and to attack inflation at the roots so as to reduce the high profits which make it possible for employers to accede readily to wage increases, the stabilization programme will break down.

The attempt to stabilize wages has been more thorough in America than it was in Britain—in a legal sense—but it demonstrates that organized workers will not easily accept cuts in real wages by administrative means in a period of inflationary full employment—unless there is a genuine crisis situation. Even crisis psychology is rapidly dissipated when prices and profits rise and the burden of restraint does not appear to be shared equally. Great as the differences in American and British methods have been, they have one thing in common: that, ultimately, the success of the American policy rests, as did the British, on the willingness of the employers and trade unions to accept it and abide by it. American policy appears to be running into the same difficulties as did the British and will probably suffer the same fate—that of being abandoned by the unions. The American experiment has not proved to be in any way a substitute for a more direct attack on inflation, and offers no hope as a permanent solution to the wages problem under full employment when collective bargaining is left to continue, though, like the British wage restraint policy, it may have had some braking effect, and so justified its existence as a temporary measure.

LONDON SCHOOL OF ECONOMICS

# A LETTER FROM DAVID HUME

*By* A. J. YOUNGSON BROWN

SIR,

I confess that in my lifetime I was very industrious to keep up a correspondence with posterity, and sometimes sacrificed to it the company and correspondence of friends, whom I valued and regarded. Yet the centuries roll by; and as it is this year exactly two hundred and one years since I published my *Enquiry into the Principles of Morals*, and near two hundred years since there appeared the first edition of my *Essays, Moral and Political*, I am tempted, although far removed from the scene of controversies and passions, to sacrifice my friends for an hour, and write a letter to my intellectual heirs. I desire especially to say a word to the political-economic question, which I believe I was among the first to raise, and which has been a great deal agitated of late, viz. the Rules of justice and property, which would best promote the public interest, and establish peace and security among mankind.

In my *Enquiry* I have said that, were property equally divided among the species, 'every individual would enjoy all the necessaries, and even most of the comforts of life'. And although this point is a little disputed, it seems a not too sanguine hope that the progress of luxury is such that the expectations of the most exacting may in this particular be shortly realized. Yet the proposition which arouses the more dispute is that which follows, namely, 'that whenever we depart from this equality, we rob the poor of more satisfaction than we add to the rich, and that the slight gratification of a frivolous vanity, in one individual, frequently costs more than bread to many families, and even provinces'.

The seed which I thus sowed casually and, as it were, light-heartedly, has taken long to grow. And I confess that I find this the more surprising in that my suggestion was never neglected for long. My follower Bentham —to whom I see that some of the credit for the original idea is now given —generously declared that it was as if the scales had fallen from his eyes when he read my *Enquiry*, and he proceeded to develop—and I must reluctantly add, to caricature—the ethical and political ideas which I had put forward, including this of what is now called the diminishing marginal utility of income; while a little later Jevons carried the philosophical theory of what had come to be called utilitarianism—which in the meanwhile Mill had done so much to keep alive—to a further stage of logical completeness, declaring Political Economy to 'rest upon the laws of human enjoyment', and adding, 'they must be developed by economists'.

It flattered my vanity a little to see the connexion between philosophy

and economics thus decisively reasserted in the later nineteenth century; and yet I am not altogether happy about the nature of the connexion which was established, seeming as it does to me to rest on none too secure a foundation; nor am I convinced that it is right that what Bentham, Jevons, and myself joined together should now be put asunder.

There is a distinction, it is said, between wealth and welfare; and such a distinction seems to agree with the common notions of mankind.

> Wealth heap'd on wealth, nor truth nor safety buys,
> The dangers gather as the treasures rise.

Something of this sort has often been said. But when we ask precisely wherein wealth consists, and how we may measure these accumulations of riches to discover whether they have increased or decreased viewed apart from human enjoyments, it is commonly allowed to be a hard matter to find any worthy test of valuation but that of a market place. 'Wealth', says the learned author of the *Principes Nouveaux*, 'is a modification of the state of man; it is only by referring it to man that we can form a clear idea of it'; or, as it has been recently expressed, it is 'simply false' to suggest 'that there is something, called real income, which can be said to become larger or smaller in some perfectly objective sense'. This maxim is true in general; though I cannot forbear thinking that it may possibly admit of exceptions, and that we often establish it with too little reserve and limitation. The republic of Sparta was powerful because its citizens lived without ease or delicacy; and, to consider the matter more abstractedly, manufacturers increase the power of the State, not of necessity by increasing the riches of its citizens, but by storing up so much labour which may then be converted to the public service or to such private uses as the State may decree. This reasoning is not chimerical; but its importance is uncertain, and we may choose to disregard it.

Being unable, then, to give a clear meaning to the word 'wealth' independently of 'welfare', let us ask ourselves what we mean by 'welfare': and at once it is obvious that this is a question in philosophy, for 'welfare' is a word implying a judgement of the states of mind of persons, and having, in isolation from man and his passions, no significance whatever. Thus it is an empty sound to speak of 'welfare' or 'economic welfare'; and where the ingenious author of *Welfare Economics* says, 'welfare is an increasing function of the well-being of individuals', we must understand him to mean 'the economic welfare of society is an increasing function of the well-being of individuals'. When we distinguish between public wealth and welfare, therefore, we are forming a judgement about the well-being of some group of individuals in so far as that well-being is affected by the commerce and riches and luxury of those individuals; and in our judge-

ment we must consider both if the luxury which is enjoyed be blameable or innocent, and also to what degree the riches of the group are engrossed by a few or are shared among them in such a way that each may obtain a full possession of all the necessaries, and many of the conveniences of life. But as the quality of luxury is not the present problem, it follows that the dispute concerns solely the degree to which the enjoyment of innocent gratifications should be generally diffused among all the citizens of a State.

The solution to this problem of what constitutes the 'best' distribution seemed at one time—'practical' considerations apart—both simple and agreed. Economic goods were to be treated precisely as I had treated good motives in my *Human Nature*—they were to be regarded, that is to say, as commodities or services either useful or immediately agreeable to ourselves or to others, that being useful which leads to pleasure, our own or others'. On this basis, two theories of 'human enjoyment' or 'consumer behaviour' were constructed. In the first of these, it was asserted that the prices of goods in the market place are the outward and visible sign of 'satisfactions', which 'satisfactions', having regard to any one article, diminish in strength as they increase in number; in the latter, that the concept of 'wants' relates solely to the weighing of alternatives, so that it is only when there exist alternatives that there exist wants, that as any want is satisfied relatively to others it diminishes in intensity, that every valuation in consequence '*is* a comparison', and that all else amounts to 'metaphysical explanations of the immediate fact'. 'It is beside the point to talk of boys eating successive oranges.'

Of these two formulations, that which depicted human conduct as governed by the continual march of the appetite towards satiety had the attraction of simplicity, but it also had obvious drawbacks. Thus it has been objected that sensations which are good for us are not necessarily felt to be so; that the satisfaction which we deem a purchase to have yielded may be a mistaken imputation; that the satisfaction which we actually obtain may be dust and ashes; that the satisfaction which we anticipate is but a guess—and so forth. Against these objections and others like them, the elegant and illustrious author of *The Principles of Economics* has argued that although satisfactions and the like cannot be measured, yet their effects can; but what he really says is that the *economic* effects of the satisfactions can be measured; and in the last resort he defines the economic effects of economic motives by referring his readers to the prices paid for the commodities and services in question. Nevertheless the shortcomings of the theory are less notable than its own utility and the rough justice which it does to human actions; as Marshall himself said, the measurement of motive by money is 'convenient'.

This first 'theory of consumer behaviour' has, then, the twin merits of simplicity and (over a sufficiently extensive field of transactions) plausibility. But the philosophers of income are not contented with this. They assert that their system has particularly and fully proved that what is true of a single commodity is likewise true of all riches; they affirm, in their own words, 'the diminishing marginal utility of real income'. Now it would appear either that the proposition has escaped them, that choice is always choice between alternatives, and that income is not an alternative; it is not like a commodity, rival to other commodities; it is power —as I have elsewhere said, 'power of procuring the pleasures and conveniences of life. The very essence of this power consists in the probability of its exercise.' Or, alternatively, it rests unnoticed that to say that we value a thing less as we have more of it is an observation of the marketplace, or of the table; whereas riches stand upon a different footing. Who has observed, looking abroad upon the world, that as men have more riches their avarice abates? And who has claimed—although it may be true—that riches are an alternative to leisure or to honour, and for this reason have the attribute of diminishing utility? These arguments on the one hand are false, and, on the other, rest unused; and we may conclude that the equality of incomes as an ideal is not to be deduced from any principles of the behaviour of consumers; and thus it cannot surprise us to find that the author of *Welfare Economics*, in seeking to escape from a dilemma similar to that of Marshall's and to prove (which surely no one in his senses ever disputed) that the diminishing marginal utility (or satisfaction, or happiness) of income must apply (if it apply at all) 'in some sense to real income', at last declares the 'law' to be a 'tautology', and can find no further proof for it than its restatement, viz. 'a higher marginal utility of money is to be taken as a sufficient criterion of a lower real income'.

Thus it again emerges, as this author rightly insists, that the general principles which should govern the distribution of riches are ethical principles and require, for an answer, an ethical basis. This suffices, it appears, for the modern political economists to pursue these questions no farther. But problems concerning the advance of riches still remain, and regarding these it seems the present fashion to abandon the familiar, imperfect, in my opinion crudely over-simplified but yet useful suggestions of Bentham, to put no other ethical assumptions in their place, and yet, somehow, to go on discussing the public welfare.

Nothing can be more instructive on this head than the writings of Mr. Little. He begins by saying, in his *Welfare Economics*, that it is 'economic' welfare which is the subject of our inquiry, that is (according to our author) the changes in those sources of welfare which are commodities

and services 'which could be exchanged for money'. This is certainly a loose manner of definition, for there are few things which could *not* be exchanged for money, were the circumstances sufficiently strange. Nor can our faith in this definition be strengthened on reading later that in 'John's [economic] happiness. . . . The standards of living of friends and enemies is [*sic*] of some account'. Of all the vices of language, the least excusable is the want of perspicuity, any ambiguity in expression being next to the having no meaning at all; but where precision is impossible it is perhaps idle to complain, except of a pretence to it.

Having thus 'defined' economic, our author proceeds to the heart of his system, the prelude to which, as I have said, is to affirm that problems of the distribution of riches are in their nature beyond the scope of economic theory. Then those changes are good, we read, to which our assent is given when based on 'two fundamental value judgements', viz:

(*a*) that an individual is better off in a chosen position;
(*b*) that welfare increases as the sum of human enjoyments increases.

(*a*) I confess that it appears to me that an esoteric terminology is here introduced to the manifest confusion of thought. 'A chosen position', we learn (p. 38), is entailed in 'a higher behaviour line'; and 'a higher behaviour line' is one which 'represents greater satisfaction' (p. 14). Therefore an individual who is 'better off' ('in a chosen position') is, among other things, more satisfied. In short, he is better off if he thinks he is better off, and if he thinks he is better off we think so too; and think, in addition, that, other things being equal, society is better off as well. But *do* we assert that a man is the better when he is (among other things) happier, and that, the economic circumstances of others remaining the same, he ought in all cases to be made happier? Clearly, we do not and *ought* not of necessity to approve this, *unless* we think the sole end of morality to be the increase and the consumption by the individual of all those commodities which sustain and adorn life. Furthermore, are we satisfied that we can measure the increment of happiness by money income—otherwise how do we know that an individual is happier? Thus in the end what we are saying is that it is always a good thing if some individuals have more money and none less; but to say this we need to believe, not, admittedly, that happiness alone is good, but that personally felt income-derived satisfaction is alone good, and we imply that there is a common element (and if it be not happiness I know not what it is) so preponderant in all individual satisfaction that distinction between individuals in this respect is neither possible nor necessary; which I for my part deny.

But if happiness is not the only element in 'satisfaction', what makes

the individual more satisfied? To this question our author returns no clear and decided answer. On p. 78 'it is almost certainly the correct view' that there are other values than happiness; on p. 79 it *is* the correct view. But if labour and commodities which are bought and sold produce not only happiness, but other values as well, then to say how they should be distributed we require to know the value of these several values, and to know also which distribution of goods among morally distinguishable persons will lead to the greatest amount of value (or welfare) measuring both quality and quantity; by comparison with which, the calculations of a Bentham were simple! We should then desire, as I have pointed out, 'to assign the largest possessions to the most extensive virtue, and give everyone the power of doing good, proportioned to his inclination'; but this is impossible. We are likewise informed (p. 28) that satisfactions do not determine behaviour (which is not what we read on p. 14: 'The assumption that the individual tries to maximize his satisfactions is retained'), but that nevertheless we can approximately deduce satisfactions from behaviour (pp. 26, 27, 30, 32). As our author so much insists upon this point, I take him to mean that in saying that 'I prefer' is an equivalent for 'I am (among other things) happier', he is implying that I do not act *simply* to maximize happiness, but that, in acting as I think right or good, I am, incidentally, among other things, happier. Thus the individual is happier if he has more welfare; but his happiness is not the criterion of the more. With this point I am naturally in agreement, having ever insisted that virtue is of the mind, and finding no substance in the deontological paradoxes of Bentham. But it follows that an individual might be perfectly virtuous (and even perfectly happy), although his income were small and decreasing. Is, then, the justification and the measure to be the happiness (which is a part) or the welfare (which is the whole)? Shall we determine our policies—the question is—by what we now declare to be a minor and accidental factor both in the causes of economic actions and in their results?

(*b*) These difficulties are increased by the second 'fundamental value judgement'. Supposing—as is almost certain to be the case—that a change leaves some individuals more 'satisfied' and other less? In such a situation we receive no help and are merely informed that 'Welfare is an increasing function of the well-being of individuals'. But what exactly does this mean? Does it refer to the well-being of individuals in the aggregate? No, because then we should be adding together their varied experiences of pleasure, and we merely postulate (surely not 'also postulate'? (p. 111)) that economic welfare is greater if one citizen is better off and none is worse off. Yet, were we to allow ourselves to 'sum utilities', how much wider the prospect which would open before us! Mr. Little's

refusal to do this is the hinge of his system, and arises, no doubt, from his beliefs that the phrase 'the happiness of the community' is 'very vague' or worse, and that 'happiness is not a sum of satisfactions' (p. 63)—although he allows that in fact we can and do make calculations like addition.

The objections which are raised to the summation of utilities or satisfactions are not new, and this problem can never be resolved until it is seen to be not one but two problems.

Firstly, can we compare the happinesses of different persons? Assuredly we can and do. To deny the possibility of judging of the states of mind of others is but a form of solipsism, or the denying any knowledge of the existence of other minds: which is a denial arising, in so far as from any reasonable cause, from the undoubted fact that we have better means of knowing our own mind than the minds of others. But that is all. And surely it were a pity *not* to compare different people's happinesses, when the possibility of making a comparison by the use of a single simple standard is one of the greatest practical advantages of adopting such a standard.

Secondly, granted that comparison is possible, there are still three views which may be held regarding the summation of utilities: one may hold that such summation is (*a*) meaningless, (*b*) impossible, (*c*) unnecessary. Clearly, if we are to resolve the question, Is that change in the enjoyment of riches good for social welfare which leaves some individuals more 'satisfied' and others less 'satisfied'? summation, in some sense, cannot be unnecessary; and as we are still seeking to guide the progress of welfare, we must answer this question. Is it impossible? No, not unless we require a high degree of precision. If, like the author of *Welfare Economics*, we do, then we must, like him, refrain from 'dealing formally with factors which are not, in practice, nor even perhaps in principle, measurable'. But surely our author should go farther; surely he should refrain from dealing with them *at all*. By adopting this position, however, which must be owned to be disadvantageous, we should leave ourselves with scarce room to turn. As I have written, 'By knowledge I mean the assurance arising from the comparison of ideas. By proofs, those arguments, which are derived from the relation of cause and effect, and which are entirely free from doubt and uncertainty. By probability, that evidence, which is still attended with uncertainty.' And although our conjectures regarding the happinesses of many may be but probabilities, or as circumstantial evidence, we do not hold that circumstantial proofs are worthless because they are not demonstrable proofs.

The weightiest objection is the last. 'Happiness "in its fullest extent" as "the utmost pleasure we are capable of" is', it has been said, 'an unreal

abstraction if ever there was one . . . it has no more meaning than "the greatest possible quantity of time" would have.' But this I dispute if it be applied to the happiness or welfare of a community. It is evident that the welfare of the community is not the sum of the welfare of its citizens. Nevertheless, we do 'sum' welfare in the sense that we derive a notion of the 'whole good' of a community from the scope which that community affords its citizens to achieve welfare as experiencing (and moral) agents. We review the whole of society, and judge of its welfare by regarding the situation of all the individuals within it, of their relationships one to another as well as of their states: 'The public good . . . depends on the concurrence of a multitude of causes.' In this sense it is both possible and impossible to sum utilities; and I believe that it is for this reason that so many writers so scrupulously avoid the summation of utilities and yet avoid it with such difficulty and such loss.

And now, having said so much, it must be clear, I think, that I do not believe it possible to banish ethics and continue to think of welfare. Riches promote happiness in many forms—power, contentment, pride—and the extension of happiness is the end of morality; but happiness is not a solitary motive nor a solitary result, nor is it itself the good: 'We do not infer a character to be virtuous, because it pleases; but in feeling that it pleases after such a particular manner, we in effect feel that it is virtuous.'

As to the equality of incomes, I have frequently expressed my opinion, which doubtless is known to you all, that such an equality 'is most suitable to human nature, and diminishes much less from the happiness of the rich than it adds to that of the poor'. This, I think, wants no proof, nor can any be found but from experience.

Yet this is but the beginning of the problem, as I remarked over two hundred years ago: and I confess that I am surprised to find that this preliminary should still occupy so much of the attention of my successors. The questions I should still expect to hear discussed are such as I touched on—too briefly, it seems—long ago. If equality is not a natural equality (arising, for example, from equality of opportunity) but is enforced by the State, how shall so much authority not soon degenerate into tyranny, where taxes, investment, property, and wages are all decreed? If art and industry cannot be drawn forth by appealing to the natural cupidity of man (for avarice is the spur of industry), can we really hope to 'convert a city into a kind of fortified camp, and infuse into each breast so martial a genius, and such a passion for public good, as to make everyone willing to undergo the greatest hardships for the sake of the public'? This has not been, I believe, since the republic of Sparta. How far may happiness

—which consists in action, pleasure, and indolence—arise from the fruits of labour, and how far may it be contrived to arise from the labour itself? How important is it that the appetite for whatever is just unobtainable is always, however wealthy the individual, the most alluring appetite of all? And even if the endless pursuit of wealth lead only to frivolous expenditure, do we not, by banishing such luxury, without curing sloth and an indifference to others, only diminish industry in the State, while adding nothing to the charity or the generosity of men? Too abstruse reasoning, as well as a too extensive enthusiasm, should not blind philosophers to questions such as these.

I am Dear Sir Yours sincerely,

DAVID HUME

CAMBRIDGE

# SOME ECONOMIC ASPECTS OF THE WOOL TRADE[1]

*By* PETER NETTL

## Structure and organization of distribution

THE 'wool trade' is a mystery. Those not engaged in it—and this includes government experts and academic economists—do not know what it is all about; they are lost already in the preliminary jungle of technical jargon. Those who earn their livelihood through it, and whose action governs most of the trends we shall be discussing below, do not really understand it either. The proof of this is the astonishing changes of fortune of firms within a short period of time, the propensity towards heart failure among the inhabitants of the wool centres of the world, and, finally, the fact that 'woolmen' never agree among themselves as to the future, near or distant. Indeed, they are proud of its mystery. Mentally, a 'Southerner' will feel more at home in Monte Carlo than in Bradford. But in spite of its uniformity and isolation, Bradford is not as corporate a community as one would think; it is corporate in sentiment, but not in thought. Some of the time Bradford knows what it is going to do; it can, or will, rarely give a reason, and never the same reason.

By 'wool trade' is meant the distribution of the raw material for textile manufacture. There is an abyss between the wool merchant and the cloth wholesaler, between the topmaker and the weaver—an abyss of two or three manufacturing processes! One of the purposes of this paper is to build a bridge between them and to define, as far as possible, their relationship. There are in England, at a guess, almost as many wool merchants as cloth wholesalers; in France, where raw-material distribution is more monopolistic, about two-thirds as many, and in Italy the proportion is about half. In America the proportion is more like 1 to 50. In turn there are fewer agents, working without capital, in England than in France or Italy. Thus the first and most startling aspect of the wool trade is the tremendous capital and labour involved in the distribution of a raw material which is never used by the ultimate consumer in this state. The main reason is, of course, the nature of the product itself. There are,

[1] This article is an attempt to apply certain economic ideas and methods to a sphere of business jealously wrapped in the mystery of its technical obscurities. The attempt is therefore especially difficult and interesting. The author, though not a professional economist, has worked in neighbouring fields at Oxford, and is now connected with a wool-merchanting firm.

Perhaps it should be explained that special emphasis has been given to those economic factors especially significant to or interesting in the wool trade. Thus considerations affecting international commerce generally have been discussed only briefly. For instance, the political influences on post-war trade, though obviously very important, have only been mentioned in passing.

according to the war-time Wool Control 'Bible', no less than 5,000 classified types of raw wool, to which must be added the hair from animals as varied as goats, camels, and rabbits. Then there are all the artificial fibres in ever-increasing numbers, from milk to ground-nut fibres. Finally, there are almost as many types of re-usable processing wastes or re-used textile articles, such as rags or clips, as there are types of virgin wool. There is, indeed, far greater diversity in the raw material than in the finished product, leaving aside colour and design. The raw-material market can boast of a highly complex distribution system, with the element of choice by the consumer—in this case the manufacturer—greatly in evidence.[1] This element of genuine choice or partial substitutability provides a large part of the *raison d'être* of the wool merchant and also—or therefore—has a considerable effect on price; if there were only a few standard types of wool, as there are of cotton or coal, prices would be governed more directly by supply and demand, manufacturing calculations would be much simpler, price trends of the manufactured article and the raw material would be more directly related, and, finally, the statistician's life would be easier; but much of the trade would be liable to more effective government interference.

Another very significant factor is the enormous average distance travelled by each unit of wool before manufacture, somewhere in the region of 3,000 miles. The major wool-producing countries, except the United States, consume no more than about 8 per cent. of their production. Apart from the direct influence of all this travel on prices in the form of freight, the indirect effect on prices is even greater as a result of the time-lag, the finance thereof, and the consequent invitation to speculate. If merino sheep could be raised anywhere, the wool trade would alter utterly.

Thus the wool trade requires an intricate pattern of finance. If a worsted spinner in Bradford were always to buy wool in Australia for his own production needs for one month at a time, he would have to have at least five times the working capital than would be required to finance purchases of the top[2] from an English topmaker. If a woollen manufacturer prefers to buy in the primary market he must have nearly four times the capital he would require to buy scoured wool from a merchant in his own country. Risks of bad processing and damage apart, it is clear that if a woollen manufacturer is to pay an intermediary's profit of, say, 15 per cent., it will only be profitable for him to buy direct in the primary market if he

[1] In a sense 'choice' as commonly used has here to be redefined. Where the producer is also a consumer his choice is still governed by marginal profits, with the addition of certain elements peculiar to the wool trade, above all the degree of substitutability as between one type of wool and another.

[2] Tops are combed wools for worsted spinning, a process of preparation which enables the spinner to spin his wool straight away without further processing.

can borrow at less than 3½ per cent. and as much as four times his minimum working resources. Since this is usually impossible, he either buys a large proportion or all of his requirements from a merchant, or he buys ahead for a long period when he thinks wool is cheap. Here he runs the risk of a 'bad spec'.

The importance of the merchant in the wool trade is threefold. His prime function is to provide the industry with choice of product. It is his task to have available, and often to suggest, the most suitable material for a manufacturer's different needs. Moreover, he must take the risk of changing demand. He may be left with large quantities of a type of wool in stock, purchased against previously regular demand, which manufacturers have now abandoned in favour of a cheaper or better-class wool. Since this function of offering the right wool at the right time is so very important, owing to the huge variety of types of raw and processed wool and wool products, it explains another curious feature of the wool trade —the continued existence of so many apparently marginal merchanting firms, with no capital or stock of their own, whose sole activity is that of offering other people's stock to the manufacturers or other bigger merchants.[1] Similarly, there are many large and prosperous firms in Bradford whose activity consists of offering all over the world the standard types of scourers and carbonizers,[2] topmakers, and other merchants for export, under their own name and as their own production—their entire contribution is the service of export which producers often cannot be bothered with, especially in the complicated post-war world. Occasionally they also help to provide credit for the foreign customer.

The second and third functions are often combined. It is the function of merchants to hold stocks available for prompt consumption by manufacturers. These marginal stocks are, as will be seen, the basis of the wool trade as a whole, and their price, being the intersection of supply and demand, establishes the auction price of the raw material and thus the price basis for the whole textile trade. One of the features of marginal stocks is that holders of them *ipso facto* provide the finance of wools from the time of purchase in the primary markets to the moment of their arrival in the country of consumption, and this brings in finance, the third function of the merchant. This is the most contentious of the merchant's duties; he will normally give as little credit as he needs, and manufacturers will press for as much as they can get. When prices of wool are high, even if turnover is quick, manufacturers' resources are extended and they require credit from merchants, though in that case the banks are often willing to help, while merchants may themselves be over-committed;

[1] The unsuccessful ones are known accurately in Bradford as 'sample snatchers'.

[2] A chemical process which removes otherwise irremovable foreign matter from the wool.

when prices are low during recessions, banks are difficult, but manufacturers still require credit to finance their very slow turnover, and it is up to the merchant, even if he is not keen, to provide the credit, especially if he does not hold much stock. In view of this struggle between merchant and manufacturers, competition between merchants in price, especially in a falling market where everyone has made losses on stock, very often resolves itself into competition in giving credit, providing the market drop is not part of a general depression. Normal 'payment against documents' terms often give way to 120 days' draft, and this at a time when manufacturers, economically speaking, sometimes need it least.

There are few trades in which merchants are so numerous and so powerful, especially those merchants who take the risks incumbent on financing and stockholding in addition to doing the work of ubiquitous offering. Between two-thirds and three-quarters of the financing of wool from the time it leaves the sheep's back to the time it reaches the retail shop in the form of cloth (omitting hand-knitting yarns, felts, and other products, where the ultimate consumer is closer to the sheep) is provided by merchants who do not themselves own any machinery, though they may have work done on commission. The merchant bears all the normal commercial risks, falling market values, the political risks which today are more troublesome than ever before, and the fact that his stock may remain unsold for an unusually long time. Moreover, this risk is not shared by manufacturers in the same proportion: the latter can 'average' a bad purchase within their general production; a merchant, who resells without processing, can 'average' only over a long run of sales in the same 'product', and many have to hold unsold stock over a considerable period. Then there is the quality risk, a special feature in the wool trade. The purchase of a 'standard' type is always a matter of expertize: wool is a very varying product and the exact conformity of one delivery to a manufacturer against another, or the conformity of a delivery against a sample, is based on the ability of a buyer in the primary markets to grade wools exactly and, if necessary, to blend them with the same exactitude. One of the most difficult items in this connexion is the calculation of yields. Usually wool is bought by merchants in the greasy state in the primary markets and sold on a 'clean basis'—i.e. on the estimated yield after scouring, and this calculation is part of most contracts. Hence the conversion estimate is part of a merchant's risk, though generally an experienced buyer can estimate yields with complete accuracy. In the distribution of wool wastes, speciality wools, and re-used textile materials, rags, clips, &c., the influence of merchants is even more pronounced, but this trade is on a much smaller scale and divided up between many small merchants, and therefore almost impossible to investigate accurately.

With so large a part of the wool trade in the hands of merchants, it is important to inquire how far the activities of merchants have a beneficial or disturbing influence on the price of wool and the tendencies of the trade. It goes without saying that steadiness of price and an even volume of turnover are the outward signs of a desirable equilibrium. Now, until recently, the activities of merchants were hardly ever the root cause of changes in price. If merchant buying at the auctions drove up the price, this increased demand was based on at least a probable increase of demand by the industry, as reflected by increased inquiries, firm buying-orders, and—most important and significant of all—an increase in the price of marginal stocks in the consuming countries. However, both the rate of rise and the actual rise itself could always be exaggerated by merchant activity and confidence; normally such over-confidence would result shortly after in a slight recession, but when, as in 1947–8 and again in 1949–50, merchant speculation was largely taken up and even carried farther by the industry, merchants made large profits, and their confidence was redoubled at the next auctions. Similarly, merchants' activities do not normally initiate price falls, but it is during price falls that merchants' influence is at its strongest, paradoxically against their own interest. For while industry may not be able to pay prices such as those prevailing at the beginning of 1951, it is more usually the lack of demand rather than the cost of wool which brings about recession, and thus a price fall. We shall look at the question more closely later, in terms of elasticity. But whatever the cause of the recession, it usually brings about heavy destocking. The paradox is that merchants' eyes are normally firmly fixed on auction prices instead of on the real governing factor, the price of their own prompt stocks, and hence, as destocking brings down stock-replacement prices, the fall is usually even more rapidly cumulative than the rise. This tendency for the rate of fall to be greater than the rate of rise is usually due to the actions of merchants and topmakers. Manufacturers see the price of marginal stocks collapsing, usually in combination with vastly increased offerings, and naturally hold off until they judge the market is about to rise again. It is only during the months of June, July, and August, when there are only a very few auctions, and the self-imposed terror of auction-gazing is denied to merchants, that the latter sometimes succeed in sustaining a weak market by holding on to stocks in face of weak demand from the industry. Sometimes merchants choose to ignore the weak tendency of one or two auctions in a generally rising market, caused by the temporary withdrawal of one or a few big interests.

Merchants thus always played a considerable part in the minor ups and downs of the wool trade, but this was an accepted part of the trade, and

merchants as well as manufacturers were accustomed to and prepared for it, without harm except to the very foolish. The consumer was generally little affected. It is during the more prolonged and fundamental disequilibria of the wool trade that it becomes important to the economy generally whether merchants do or do not perform their proper function. These major disequilibria may or may not be confined to wool or even to raw materials. Clearly merchants are themselves relatively powerless during time of runaway inflation and at moments of very low and decreasing aggregate effective demand. They can only retard—but never counteract—price tendencies governed by consumer demand. However, these movements may be endemic and confined to a group of wool products, and it is then that the delay or levelling of price movements, which the policy of merchants can bring about, may have an important effect on the trade. The larger the promptly available stocks held by merchants the more effective their influence. Thus a tendency to sell stocks at moments of price rises, without speculating on still further rises, often levels off an incipient boom, especially if merchants do not immediately scurry to cover their anticipated requirements at a new and higher price, thus avoiding the cumulative confidence boom. Similarly a restraint in selling when the market is weak will prevent the usually self-inflicted crash which heavy destocking operations tend to bring about. To anticipate the future with a view to knowing what to do requires the merchant not only to see ahead as regards what is going to happen, but to see also the reason why. If a price fall is due to a national credit crisis, he can clearly not battle lone-handed against widespread economic tendencies. On the other hand, a seasonal or local change is one which he can easily help to weather, providing he is prepared to increase or decrease his stock or the rate of its replacement. There is normally an unconscious but inevitable tendency to over-estimate the probable range of approaching price changes, and this is perhaps the main reason why effects are often out of all proportion to causes in the economics of raw materials. We shall examine at the end of this paper a possible means by which this today increasingly understandable lack of clairvoyance on the part of merchants may be overcome. The difficulty is to know at any time how big are the stocks with which any change of price can be combated, and it is along these lines that any solution to the inadequacy of wool merchants must be found.

## Stocks and prices

The proportion of stocks held by merchants, and to a smaller extent by manufacturers, depend almost entirely on the trend of the market, and only secondarily on the price of the day; in other words, the price is a

factor only in so far as its trend reflects the demand trend, and this is not altogether automatic. Business in the wool trade is often at its most brisk at a time of steeply rising prices—60 per cent. within a season as in 1950–1—and it has been found that stocks do not decrease as prices go up; on the contrary, they increase until the limit of financial resources is reached, and even then the banks can sometimes be persuaded to ignore apparently high prices! Thus at a time of rising prices merchants in the primary markets buy briskly, and merchants in the consuming countries in turn buy briskly from them, thus accentuating the rise of prices of wool. Similarly, as prices go down, heavy speculative destocking takes place, thus bringing prices down still farther. Thus the operation of merchants may often accentuate instead of decreasing the huge swings in raw wool prices—exactly the opposite to the intended effects of buffer stocks.

As has been pointed out, the inelasticity of wool supply throws the whole effect of demand on the price of that giddy commodity. Together with cotton and rubber it has been subject to greater fluctuations in the last 50 years than any other important raw material, but, unlike these two companion commodities, it has not been subject to the same extent to financial speculation, but only to expert technical speculation. There are only three futures' markets, and only a minute proportion of transactions in wool and tops was until recently done through them. The greater part by far is based on an expert appraisal of probable demand in special types of wool; in other words, speculation is by members of the trade and not by purely financial interests. Thus, bearing this in mind, wool might be considered as the commodity subject to least extraneous influence but subject to the widest fluctuations. But it would be incorrect to consider price as the governing factor of the actions of merchants or manufacturers. Before the war the raw material played a small part in the price of cloth, and even in the post-war price boom, wool still has not become the major factor in the price of cloth.

We shall have more to say on this point later. Stocking and destocking in the wool trade is normally based on the expectation of future profits rather than the realization of immediate profits. Thus, as has been said, stocks held by merchants or manufacturers go up at a moment of rising prices and either decrease or remain stable when prices fall: the movement of prices governs the quantity of stock. This, of course, applies to price changes inherent in, or peculiar to wool; at a time of deflationary fall in prices generally, as in 1930 and 1938, the action of wool merchants is governed by wider economic and financial trends, and these affect prices through everyone's incapacity to hold stocks. Here we are concerned with short-term price changes only. Unlike other commodities, wool had never

until very recently provided a haven for capital frightened by currency instability. When it did, the result almost followed the slump pattern of a Stock Exchange depression. This may be part of the explanation for the slump and depression of 1952.

Owing to the nature of the product, and the wide range of standard types—in so far as there are standard types[1]—the auction method for the sale of wool in the primary markets has been found the most satisfactory. Auctions, however, do entail the full impact of demand on prices. On the other hand, auctions do not create demand, they reflect and translate it into price terms. Moveover, their usefulness as a register is confined to the proportionately short time they occupy in the annual wool year. Thus, while they concentrate and underline the trend, they do not govern it. If business is brisk, prices at auctions will be firm; alternatively, if sales are slow, they will be weak. A far more regular indication, though one more difficult to observe, is the turnover and price of promptly available or floating stocks held by merchants and sold to manufacturers, or, better still, the auctions of prompt wools in London. These are speculatively purchased wools from previous auctions, and since a much larger proportion of them is sold for immediate consumption than of wool offered at the auctions, they provide the guide to the expectation of future sales which governs a large part of business, and hence prices, at the auctions. This is especially true of wools for carding ('woollens'); combing wools (for worsteds) are usually purchased in the auctions by combers, or by spinners for combing on commission, rather than by pure merchants.[2] Hence it is these marginal stocks for prompt or almost prompt consumption which indicate and govern prevailing wool prices. Naturally the withdrawal or entry of a large sectional or national group at an auction alters the principle, but only temporarily. It has been a significant feature of the recent enormously high wool prices that lots for prompt delivery were generally in far greater demand, easier to sell, and more expensive than lots for shipment. Hence an increasing proportion of the wool offered at the auctions in the primary markets between 1949 and the end of 1950 were bought as stocks by merchants as well as by topmakers, and these latter bought up to their combing capacity 6–7 months ahead, an unprecedented forward commitment expressing a unique confidence in the market. Manufacturers, especially spinners, who were closer to the

[1] Standard types of wool are ultimately an arbitrary convenience, nothing else. Many wool firms prefer to do their business by treating each lot as a separate one. Standard types are only the buyers' promise to find something commercially acceptable as an exact replacement of an earlier delivery.

[2] Fundamentally both woollen and worsted processes are the same, the former for short, the latter for longer wools. Woollen manufacture is usually done by one producer, who spins, cards, and weaves the raw material he buys. Worsted wools are first combed, then spun, and finally woven, almost always by three separate producers.

impact of the demand for cloth on prices and supplies, could thus reduce their stocks and their turnover time per pound of raw material, which they did increasingly, while merchants and topmakers were either holding the same or even larger stocks than previously—depending on their financial reserves or their relationship with the banks. This fact explains the temporary reign of an obviously uneconomically high price of wool, and the curious coincidence of confidence on the part of merchants, importers, and topmakers with extreme caution, proportionate holding-off in purchases and even pessimism on the part of spinners and manufacturers. Worsted spinners are perhaps the most exposed in the vertical chain of the manufacture of wool. They are close enough to the raw material to feel its tremendous price fluctuations, as wool prices are still the most important item making up the price of yarn. On the other hand, their turnover is quickly affected by changes in the business done by worsted cloth retailers. It is thus an error to speak of stocks only in terms of undisposed wool in the countries of origin; marginal 'prompt' stocks play at least as important a role in governing price tendencies.

It must also be borne in mind that the concentration of demand at auctions, and the resulting intense pressure on prices, is partly offset by the diversity of the marginal stocks. This diversity is only indirectly affected by high price levels; fewer merchants may purchase wool at the auctions, but the resale out of auction purchases to local merchants tends to increase. Thus marginal stocks are usually distributed between many merchants (more so in England than on the Continent), and this may have a steadying effect on price levels, especially where the tendency is towards perfect competition. It is as much a question of having the right stuff at the right place as that of having it at the right price.

## The factors governing wool prices

One of the features which distinguishes wool from other raw materials is the short-term inflexibility of supply, and the resulting burden of excessive price fluctuation. The diagram on p. 181 illustrates changes in price and quantities sold in Australia and New Zealand. Clearly wool-growers, particularly merino producers who have little alternative possibility of balancing their income from wool by sales of carcass meat, find their costs and returns to be very inflexible, and generally prefer selling below cost price, to a speculative withdrawal of their clip from the sales. Overheads being inflexible, capital reserves are generally insufficient for growers to hold stocks of unsold wool. When reserves can be made, as in the post-war years, they are generally offset against the sometimes much greater losses due to drought, when sheep have to be fed on purchased fodder. Further, any increase of flocks due to high wool prices requires

capital out of all proportion to the profits of anything but a run of very remunerative seasons, and usually means temporary indebtedness for growers. Hence only the absence of demand at any price can normally bring sales appreciably below production, and this has happened only in times of severe world-wide depression.

FIG. 1.[1] Wool prices, quantities produced and quantities sold

The effect of prices on supply is thus limited, and only operative on a long-term basis, when price tendencies are repeated and enchanced for several seasons in succession. The increase of flocks, or the yield per sheep, are 3-to-5-year tasks, and in the other direction a reduction of flocks is normally an uneconomic proposition. Thus in the long run, supplies must no doubt have an influence on prices, though this is never direct, since a long-term increase in supplies would probably bring in its train a proportionate increase in effective demand. Demand being infinitely more elastic than supply, the effect on prices would be nullified almost immediately, and would be felt, perhaps, not in wool prices at all, but in prices of cheaper substitute commodities. In the short run, however, supply can influence prices considerably. A drought in Australia can drive merino prices up by as much as 15–25 per cent. in one season; a dock strike in

[1] Although the index year is 1938 in each case, different levels have been used in the case of prices on the one hand and production and sales on the other, to bring the difference in changes into relation. If the same base year at the same level were used the divergencies of production and sales would be so small compared to those of prices that the tendency would not be illustrated satisfactorily. It will be appreciated that the changes in the curve of production and sales are magnified approximately 8 times to those of prices in this figure.

New Zealand may do the same to crossbreds.[1] These, however, are imponderable and incalculable factors.

Except in times of great disparity between supply and demand for wool, by far the greatest influence on prices are the many factors making up demand. We have shown that a large proportion of the bids and purchases at auctions are based on the expectation of future business,

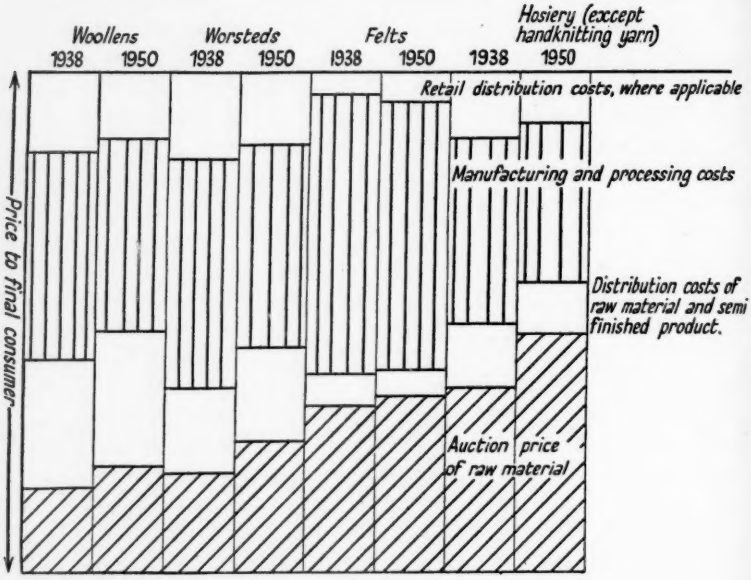


FIG. 2

governed in turn by the speed of turnover and prices of marginal stocks and partly processed wool in the consuming countries. Though speculative in the sense that such purchases anticipate the market by the time taken to ship wools from the producing to the consuming countries, and in anticipation of future sales to manufacturing consumers, the prices are an indication of the trend of demand in the consuming countries. On what is this demand based, and how does it affect prices?

In the first place, the proportion of raw wool prices to prices of the manufactured article decreases rapidly as we mount the vertical line of production. Different types of fabrics require more or fewer stages of

[1] The most important supply factor influencing auction prices is the selection of wool actually available at any one auction. If the selection is unexpectedly poor, prices will drop correspondingly, while the small proportion of good wool will be disproportionately expensive. Many buyers may find themselves with inflexible limits, and a larger proportion of wool may go unsold. If the selection, on the other hand, is unusually good, the good wool will be cheap and the shabbier types unexpectedly firm.

manufacture with higher or lower fixed manufacturing costs, but Fig. 2 on p. 182 gives an indication of the different level of raw material costs in the final price of different textile products, and Fig. 3 shows the decreasing proportion of raw material costs for various stages in the manufacture of one textile article.

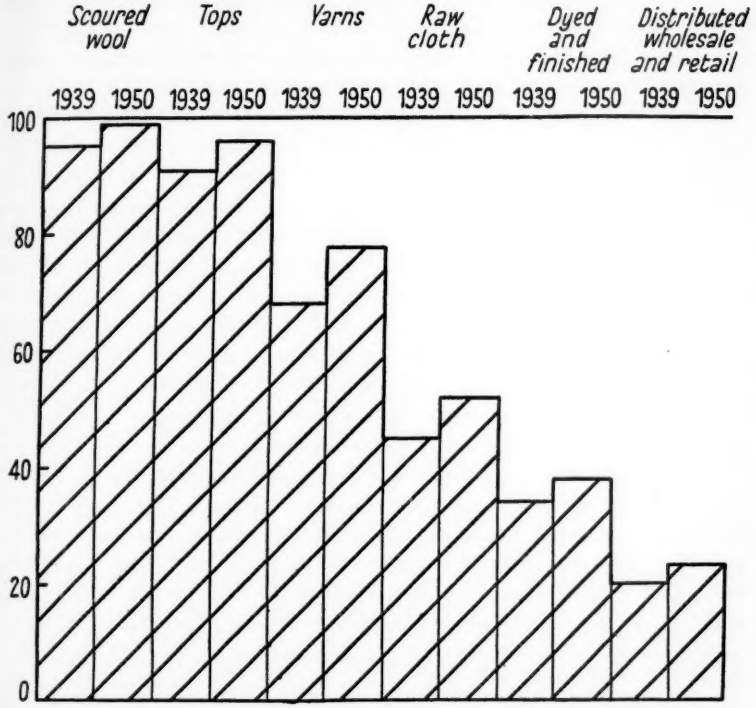


FIG. 3.[1] Proportion of auction price of wool in various stages of textile manufacture

None the less, the easiest given variable is usually the type of raw material used, and hence changes in cloth prices are rapidly reflected in the purchases of yarn, and thus in wool prices. A small decline in the price of cloth may have a considerable effect on the price of wool. Producers of ladies' woollen cloths, who are hamstrung to the fluctuating demands and prices of fashions, have to revise their buying programme frequently and at very short notice. But demand is so widespread and varied that an individual firm's buying plans can have little influence on general price levels, even if the firm is relatively large. The effect of substitution can

[1] This table is based on figures obtained from a number of firms in England, France, and Germany. It is indicative rather than conclusive for the whole trade.

be seen at a time of wide and sustained price fluctuation. Immediately after the war, when the accumulated war-time demand was sufficient to choke any signs of price elasticity, manufacturers used the best raw materials available and neglected re-used wool and waste to a large extent. The uneconomically sharp price rise during 1950 in all kinds of wool, however, was too much for most woollen manufacturers, and was followed after approximately a 3 months' time-lag in a rise of wool waste prices, which, in view of the almost ubiquitous partial or total change-over from expensive wools to relatively cheaper wastes on the part of manufacturers, for a time even exceeded proportionately the rise of wool prices. After a further 3 months—3 months' time-lag to reflect the increased demand for wastes, 3 to 6 months for the increased wool prices to appear in the form of increased prices of waste from an early or later stage of manufacturing —wastes thus reflected a twofold price increase, that of wool and that of the resulting increased demand for the cheaper by-products. But one more reservation should be noticed: with shoddies (pulled rags and clips) the position was different again. Users of such material are limited, by the nature of the cheap article they make, in the extent of the additional price they can pay for their raw material, and therefore shoddies never rose relatively as high as wool. Thus wool and noils are, to some extent, substitutable, while noils and shoddies are much less so.

All this applies to countries with large and varied textile industries, catering for world-wide demands, while in countries like Italy and Switzerland the activities of one or two of the disproportionately large woollen manufacturers may have a quite special effect on local prices, without any world-wide market changes taking place. This is particularly true in Italy, where wool, once imported, cannot be exported again without special government permission, and where local price levels are more than ever governed by local demand or the expectation of it. However, it can be said that in the long run the variety of virgin wools and its waste substitutes, tend to make for price stability, and this stability is increased —as with all raw materials—when free multilateral trade enables the marginal stocks in all consuming countries, as well as the stocks in the primary markets, to act as buffers against the effects of any individual demand tendencies in any one consuming country. It goes without saying that in the international raw-materials trade there is no more disturbing factor on prices than quotas, restrictions, and the waves of shock buying which these artificial trade 'narrows' bring about. They have made a substantial contribution to the price swings since 1945 in the wool trade, and had it not been for speculative marginal stocks these swings would have been much greater still.

This point is worth investigating in some detail. If a consumer country,

whose flow of available sterling currency for buying wool and waste is subject to being turned on and off like a tap, were forced to direct its rush of currency available only for a limited time at the auctions in the primary markets, prices would rise and fall giddily. It is bad enough when a poor country like Greece or Austria invades the market, but when post-war Japan, supported by American loans, and the United States themselves

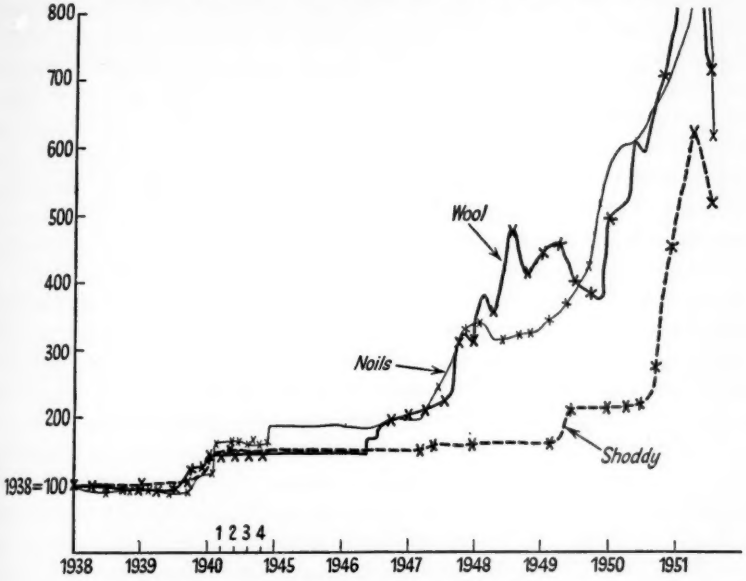


FIG. 4. Prices of wool, noils, and shoddy. (1938 = 100)

with their self-imposed abstentions and jerky re-entries, were buying, the rise of prices became truly catastrophic. When these Box-and-Cox activities are regular, or at least cyclical, above all when some notice of its intentions is given by the government concerned, forward buying for marginal stocking by merchants in the re-exporting countries like Britain and France, and—against later import licences—in the country concerned is possible, and the resale of these stocks may on the one hand help the market over a flat period, and in addition take off some of the pressure on the auctions in the primary markets later. Thus part of the post-war market difficulties which caused the Americans to suspend buying for 7 months during the 1950–1 season as a punitive measure against what they considered blackmail prices were caused by their own previous all-or-nothing buying activities. Moreover, the existence of marginal stocks at a time of all-out buying does tend to act as some sort of a buffer against

price increases, bearing in mind that these prompt stocks do have the advantage of entailing a decreased time-lag for manufacturers. It has been said earlier that demand, which largely governs prices, is based to a great extent on the speculative expectation of resale. A good illustration of this may be given here, as it is a demonstration of how prices are achieved. The Western Powers announced their programme of rearmament against the Soviet threat of war in the course of 1950, and this was followed closely by the rapid rise of wool prices to fantastic, and previously unprecedented, levels. The obvious explanation of the Bradford merchants was brief and misleading—government stockpiling for defence orders. But when the United States angrily withdrew altogether from the market in March 1951, it was announced and independently confirmed that stockpiling, far from being completed, had scarcely begun. The same was true of Great Britain and most of the continental countries. To what, then, was due the spectacular rise of wool prices at the end of 1950? Largely to the stockpiling of private buyers in anticipation of government purchases at a later stage to the exclusion of the civilian industry, and to the anticipated government demand for marginal stocks, or, in other words, to the expectation of later resale. Thus it was not defence orders, but the expectation of them, which caused the rise in prices.

Correspondingly, when the Americans withdrew, prices did not collapse, as they had confidently expected,[1] but even rose slightly, as it was known that American requirements were by no means fulfilled, and that buying could safely continue in Europe against the inevitable American re-entry into the market. This went on for 6 weeks, till merchants' financial problems on the one hand, and America's apparent determination on the other, brought about a sharp fall, and the expectation of demand suddenly and almost unreasonably collapsed, speculative buying almost stopped, marginal stocks were offered for sale at desperation prices—and America re-entered the market, as did many continental countries, especially the local markets in marginal stocks. Consumer demand, partly for defence orders, largely replaced speculative demand as a temporary phenomenon and, as a result, economists were able to witness the very unusual spectacle of a slump in prices, based on a fear of depression, immediately followed by heavy purchases based on a genuine consumer's demand. Fear may be a dangerous depressive factor, but if economic facts are visibly against it fear cannot prevail.

Artificial fibres have provided one of the most interesting aspects of substitution of raw materials as wool prices change; interesting in that, unlike wool by-products, demand for them has increased relatively little,

[1] Except at the Cape, a market peculiarly and especially sensitive owing to the semi-monopolistic control of the market by a few consumer groups, especially the French.

as substitution material, and prices have increased relatively even less. On the distribution side, it is a curious fact that whilst wool is governed by one of the most free markets, marked by the absence of all extraneous influences in the structure of its distribution, artificial fibre markets are almost the complete opposite, being controlled by national and international marketing restrictions, price maintenance, and by production

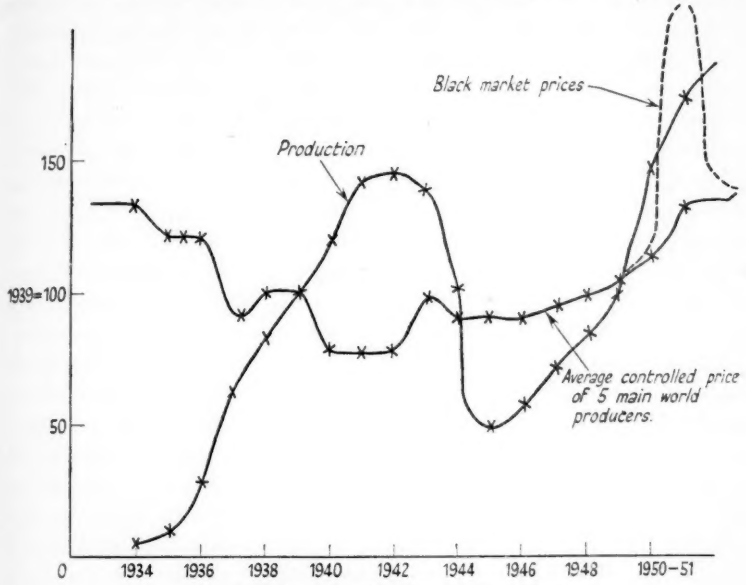


FIG. 5. Price and production of vicose fibre

monopolies. While governments are usually at their most liberal in regulating the import and export of wool and semi-finished textiles, they are at their most autarchic with regard to artificial fibres. This is not the place to explain the whys and wherefores of this curious fact, though part of the explanation may be found in the differences in the marketing and pricing of a raw material and a finished product. The quasi-production monopoly of one or two firms in each country has, of course, a steadying influence on prices, and where, as in England and France, this monopoly is supported or even contracted for by the government, the result is that prices, outside arbitrarily narrow limits, have no relation to demand and only little to supply and cost. Instead, again unlike wool, supply instead of price is the sensitive variable of demand shifts, unless special circumstances intervene. Thus a rise in the price of wool in 4 years of 600 per cent. produced a rise of only 50 per cent. in staple viscose fibre in England. Yet production increased by over 150 per cent. Nevertheless, viscose,

while cheap, became almost unobtainable during the later part of 1950, demand having increased far more rapidly than supply.[1] This was to some extent due to deliberate policy on the part of artificial fibre producers, who are in a position to enforce their supply policy on consumers, as explained above. As long as the demand is tied to the price of wool—for viscose it always will be—and as long as the price is subject to violent fluctuations—as it is always likely to be—any large capital invested in new viscose production facilities will be a risky investment, as experience has repeatedly shown. Increased output facilities in sulphur-burning plants are a fairly capital-intensive undertaking. Hence even a huge organization like I.C.I. would rather concentrate on the development of new fibres which might hold their own against wool technically, i.e. during times of cheap wool, than invest in increased output of fibres which can only compete with wool on a price basis, being a definitely inferior product all round. Indeed, the quasi-monopoly of cellulose-fibre producers was largely due in the first place to the difficulty of selling these products in 'normal' times—moments of comparative equilibria in the wool trade —when not even price maintenance prevented losses for the producers.

The conclusion from these economic indications are borne out in practice. The fear of the wool industry of being gradually ousted by artificial fibres, which has led to its emergence from its mysterious Achilles' tent to becoming one of the heaviest advertisers—'There is no substitute for wool'—has been disproved by the fact that the demand for wool was sufficiently inelastic for the product to rise 400 per cent. in price in 4 years. Statistics are misleading here. There was an ever-increasing shortage of artificial silk at the same time, it is true, due to the inelastic supply of this material in the very short run; had it been plentiful as well as cheap, it is at best doubtful whether wool prices would have been greatly affected by it. Many governments also unconsciously played their part in preventing artificial silk from influencing wool prices by heavy tariffs in the import of the material, and by treating cloth containing artificial silk as luxury goods, thus discriminating in favour of pure wool cloth, which was without this disability.

Finally, since wool prices represent, even at very high levels, less than 30 per cent. of retail cloth prices, and at wool prices three times those of 1946, only 15–20 per cent. of the price of an average quality woollen suit, the admixture of artificial fibre does not make a resounding price difference to the retail price of a suit. Very few manufacturers in England would

[1] We are here concerned mainly with the very cheap artificial fibres, the admixture of which is supposed to make cheaper textile products, but which make an attempt at qualitative competition with wool. The genuine wholly or partially substitute fibres, like nylon, are another problem, though at present they are neither cheap enough nor good enough to be a serious threat to wool.

make cloth containing more than 30 per cent. artificial fibre, yet even a suit made of 70 per cent. artificial fibre could only show a difference of 10*s.* to 15*s.* in a £20 suit. Thus the cheapening potential of artificial fibre for cloth is very limited. Nevertheless, a small admixture in top purchases on the part of a spinner would, of course, cheapen his yarn proportionately more (wool representing a much larger cost proportion of yarn than of cloth), and providing that a spinner can compete qualitatively with a pure wool yarn—this is a big 'if'—it may be possible to use considerable quantities of artificial fibre in replacing wool in the top and yarn stage, even though the ultimate cheapening in the cloth is negligible. Thus a spinner who can reduce his raw-material costs by 25 per cent. and his sales price by, say, 10 per cent., or keep his sales price even in a rising wool market, and who may find the finance of his entire requirements in all wool raw material difficult when prices are very high, is liable to switch easily to a partial use of artificial fibre if his mixed yarn can be sold with respect to quality. This explains the heavy demand for, and high black market price of, artificial fibres at the time of the very high wool prices, but at the same time it is a short-term phenomenon, representing little danger to wool as a whole.[1] There is generally little or no tendency towards increased substitution by artificial fibres in order to cut prices and increase or maintain cloth sales when wool prices are level or even rising slightly. The increased demand for artificial fibre is a result of sudden and considerable rises in wool prices; a *pis-aller* and not a conscious progress.

## The nature of demand for wool

In the long run the demand for wool is governed by the demand for cloth, carpets, felts, and other wool products. This demand depends partly on geographical and national factors, partly on economic variables such as aggregate effective demand, consumer preferences, and governmental trade regulation. It would prima facie seem reasonable that per head consumption of wool would be higher—real income and other relevant factors being equal—in cold countries than in hot ones, in areas subject to violent climatic changes than in those enjoying even and moderate climates. It would similarly seem reasonable that countries which show a high *per capita* real income would consume more wool per head of population than a country with low real incomes. These expectations are true only up to a point. From an approximate confrontation of real incomes and *per capita* wool consumption,[2] these conclusions are on the whole borne out. But there are certain glaring inconsistencies. The United

[1] This is apparently ignored by G. Blau, 'Wool in the World Economy', *Journal of the Royal Statistical Society*, vol. cix, part III, 1946, p. 204.

[2] Ibid., pp. 198–9.

States with the highest *per capita* real income was, between 1925 and 1935, only the tenth on the list of wool-users per head of their population: Belgium, with the tenth highest income, was the fourth user of wool per head. The second of these cases, Belgium, is more simple than the first. Before the war the most inelastic items of Belgian family expenditure were quite unusually cheap compared to other countries, and money wages were also relatively low. Thus, while extremely elastic items were still as much out of the reach of the lower and lower middle income groups as in countries of similar *per capita* real incomes but where food, light, rents, &c., were relatively dearer, items of average elasticity of demand were consumed to a relatively larger extent. In Switzerland, by way of contrast, the items which were cheap in Belgium were relatively expensive, while the items less elastic in demand were relatively cheap. Since Swiss *per capita* real incomes were substantially higher than those in Belgium, it would seem that as real incomes rise and the relative price difference between normally elastic and inelastic demand goods diminishes, the demand for wool products shifts from being more elastic to being more inelastic.

This is supported by other evidence. It has been suggested by Gerda Blau, quoting Allen and Bowley, that in countries of very low *per capita* real incomes—underdeveloped countries generally—the demand for wool cloth is fairly elastic, from 10 to 90 per cent. above unity for the series of budgets examined in their study. The rate of increase in *per capita* wool consumption diminishes, however, when the two sets of figures of wool consumption and real income changes in relatively high real income countries are compared.[1] Similarly, if we take the figures for different income groups in one country, for instance the United Kingdom, we find that wool consumption per head rises little between the various groups of low incomes and between the groups of high income, but rises fairly steeply between the bottom and the top of the medium income groups. Actually the line would show a series of undulating rises, but these are due to the fact that wool consumption must be classed as a periodical expenditure of relatively large lump sums, but these 'terraces' can be averaged out, leaving only the evidence of the effects of larger changes in the rate of consumption. Thus, here again there is considerable elasticity of demand for wool products in the lower real income groups, which gradually seems to change towards increasing inelasticity in the higher income groups. Obviously the change from elasticity to inelasticity is reached sooner in the scale of real incomes if real incomes increase, and earlier still if wool is cheap out of proportion to other goods of similar elasticity potential. It will come later if the tendency of conditions is

[1] See Fig. 6, p. 191.

reversed; it will also come more rapidly in the former and more slowly in the latter case.

These tendencies might be illustrated graphically as follows:[1]

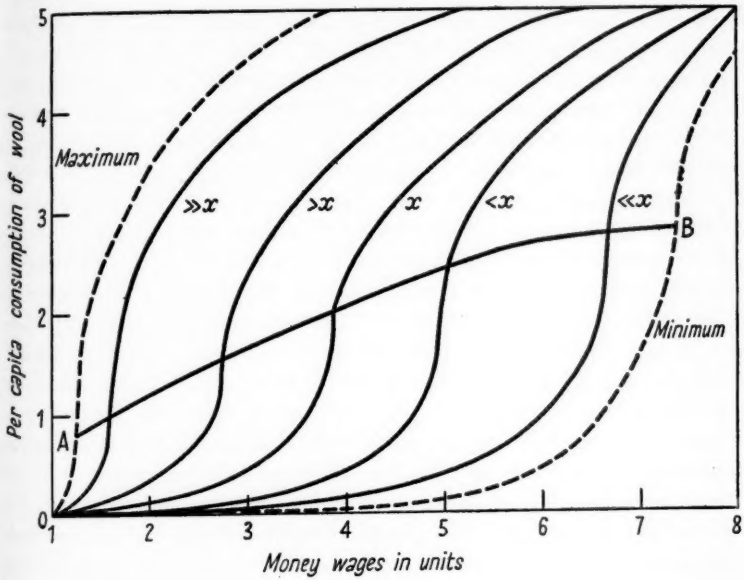


FIG. 6

If the price of goods, the demand for which was inelastic, decreased (that is, for instance, in the case of a redistribution of incomes in favour of the relatively poor in a country of high average income), the demand for wool would tend to move slowly in the direction of inelasticity, having stated in practice as a relatively elastic demand product. On the other hand, if the price tendency between elastic and inelastic demand goods diverged in favour of the former, say as a result of a heavy deflation in a country with very divergent income groups, demand for wool products would shift more rapidly towards elasticity than it shifted towards inelasticity in the opposite case. A case in point would be if Egypt or India permitted imports of American manufacturers without restriction. It is at least probable, therefore, that in predominantly industrial, and agriculturally deficit countries, like Britain or Western Germany, the demand for wool

[1] This figure is based on available statistics for similar countries. Curve $x$ is based on figures relating to Great Britain in 1929, $\gg x$ and $> x$ represent rising real incomes for a similar type of income distribution to that relating to curve $x$, while curves $< x$ and $\ll x$ represent falling real incomes. Line $AB$ shows the changing relationship of maximum consumption of wool at minimum changes of income.

products would *a priori* be more inelastic than in predominantly agricultural countries like India or Belgium, particularly before 1939. Moreover, in the light of the foregoing evidence, we can rephrase our earlier postulate regarding climate: in cold climates the demand for wool products tends to become inelastic earlier in the scale of *per capita* real incomes than in warmer countries.

Long-term and large-scale changes in the demand for wool products—which are represented by corresponding changes in the price of wool—can thus ultimately be measured in terms of a common denominator, the change in the character of demand of certain income groups in certain countries, causing a shift in the level of the tendency for demand to change from elasticity to inelasticity. As we have suggested, a general fall in the standard of living will move the tendency of demand to become inelastic to a higher income group, while a general rise will shift it to a lower group.[1] Similarly, the demand for wool tends to become inelastic at a much higher *per capita* consumption figure when the standard of living is low than when it is high. Thus we can state certain general proportions regarding the maximum quantitative change of demand combined with the minimum change in real incomes. In a country with a high *per capita* income, any substantial increases in *per capita* wool consumption can only be achieved by increasing a relatively inelastic demand, whether through advertising, qualitative attractions (fashions), new designs and inventions, substitution of other materials by wool, and so on. The increase of wool consumption at the lower level of income groups in such a country to be expected from a further increase in real wages will be small, probably less in proportion than the increase of real wages. At the opposite end of the scale, in poor countries, increases in consumption are wholly tied to an increase in real wages. The greatest rise in wool consumption in any country will take place where the largest single group of consumers was just below the intersection of $AB$ with the demand curves —the steepest rise in *per capita* consumption per unit change of real income—and where the real income of this group is increased sufficiently to move it so as to comprise the (level) $AB$. The greatest fall implies a shift sufficient to bring the consumption of the income group comprising the largest section of the population from the steepest section to a flatter portion in the elastic part of the curve. Briefly, wool consumption in a country with a high real income will be most increased by attacking the most inelastic part of demand at the highest incomes, and making it more elastic, while in a poor country the most elastic demand must either be made proportionately more inelastic or wool must be really cheap in relation to the lower real income groups.

[1] See Fig. 6, p. 191.

This analysis has been based on the assumption that wool supplies are perfectly elastic, and that prices will therefore only move in proportion to changes in real income. Since we have seen that supply is very inelastic in the short run, and fairly inelastic in the medium run, the effect of changes in demand for wool goods will be largely reflected in changes in the price of wool. This must tend to flatten out the rate of increase or decrease of *per capita* consumption of wool products in the lower income groups, but here the time-lag between the increased wool prices and the increased cloth prices and their disproportion would have a nullifying effect. For the purposes of our analysis, therefore, we can substitute a scale of wool prices for the scale of *per capita* consumption.

If we examine post-war developments we can see that the conditions necessary for large increases in wool prices have been present. There has been an appreciable increase in the standard of living of many countries, but while the increase in the real *per capita* income of the United Kingdom has caused little more wool to be consumed per head—the demand of the average income citizen of the United Kingdom for wool already tending towards inelasticity—a much smaller percentage increase in the average *per capita* real income of such countries as the Argentine, Turkey, and Egypt has brought about a proportionately far greater increase in the *per capita* demand for wool in these countries—average demand being very elastic. This can be seen from the increase of their imports of textiles and still more from the extension of their textile industry. A corollary of this development has been the relative increase of imports of wool and tops over that of yarn and, above all, cloth. By far the largest item of the post-war price increases of cloth has been the increased labour costs and other manufacturing overheads in western Europe, and the smaller corresponding increase for local manufacturers has been still further emphasized by government encouragement of home processing through discriminating tariffs against imported cloth. It is only natural that in these circumstances a considerable increase in the consumption of wool products, in a country which had previously imported the greater part of its requirements in a finished or nearly finished state, should soon be followed not only by increased investment of manufacturing capital but also by an increase of speculative capital invested in that country. The proportion between the rate of change in *per capita* consumption of the products of one particular raw material, and the rate of investment of speculative capital invested in the raw material, would be worth investigating in some detail.

In other countries, like India, this normal order of events has been reversed. Internal consumption of wool products has not been out of proportion to the direct increase in the standard of living. Both have

risen slightly since 1939, but the expectation of future increases, the new independence of the country, and its corollary, governmental encouragement of self-sufficiency tendencies by discriminating tariffs and import restrictions aimed against imports of semi- and fully-manufactured articles, has caused the rapid expansion of local speculative capital available to finance wool and top imports. At the same time fixed capital investment in textile spinning and weaving increased greatly. Thus the large potential increase in consumption, a local consequence of an increasing standard of living in an economy where demand is in the main very elastic for almost all commodities, was anticipated by the creation of the indigenous capital catering for this demand. It must be admitted, however, that the great majority of real income groups in India are still well below the level where the elasticity of demand becomes effectively demonstrated by increased consumption of wool products. India, Pakistan, and indeed Soviet Russia have a long way to go until a small increase in average real income per person drives up average *per capita* wool consumption in these countries by a considerable amount, and thus produces a considerable effect on world supplies and prices.

In Belgium, where pre-war *per capita* wool consumption was very high in relation to *per capita* real income, we can see the opposite case to the ones quoted above. Demand for wool products had reached inelasticity before the war, and the figures show that once the backlog of demand arising out of war-time shortages had been mopped up, wool consumption declined considerably until a level corresponding to that of 1937–8 was reached. In order to compensate for reduced internal consumption coupled with an increasing manufacturing capacity, exports of yarn, and especially cloth, had to be greatly expanded at the expense of raw and processed wool exports, and even of an increasing balance of top imports over exports. This was not accomplished without considerable frictional and genuine unemployment during 1948, and the recent dramatic crisis in the Belgian spinning industry, though due primarily to the falling-off in demand in the export trade, was made worse by the unyielding nature of home demand as well as by the government's previous policy of quasi-preference for the local market—its refusal to curb home consumption and imports in order to boost exports.

In France we come to the other extreme. A comparison of the figures for wool imports as against imports and exports of tops, noils, yarns, tissues, blankets, and carpets, before and after the war, seems to indicate reduced internal consumption of wool products as against a slight but steady rise in real incomes, at any rate since 1949, as compared to pre-war incomes. Here the government did attempt, if haphazardly, to limit internal consumption. Moreover, pre-war demand was tending towards

inelasticity at a fairly low level, though less sharply than in Belgium. However, repeated devaluation of the franc made export a relatively profitable proposition, especially export of more rather than less finished and processed articles. To this extent, home demand for certain high-grade apparels and carpets was kept unsatisfied. There may thus be something artificial about reduced French domestic consumption.

Both France and Italy suffered from currency inflation relatively more serious than that in other Western countries after the war. This fact, coupled with repeated devaluations, put a prima facie profit incentive on exports, and thus made wool artificially dear in France and Italy, though in Italy this tendency was counteracted by other factors.[1] In other words, wool-consumption tendencies on the part of the ultimate consumer corresponded to lower levels of real incomes than in fact existed. At the same time the wool textile industries of both countries were larger than was required to fulfil the demand of internal consumption. This is statistically clear for France as well as for Italy, and in the latter case the governmental encouragement of commission work as well as the startlingly unusual crises and changes in this industry made clear, not only its dependence on foreign consumption, but also the hazardous nature of Italy's advantages in exporting wool products or semi-processed materials —low labour costs, rapid adaptibility to increasing use of alternative raw material, such as wastes and artificial fibres, skill in blending on the one hand, absence of long-term export connexions, and a not quite first-class commercial reputation on the other. Thus the French have steadily, and the Italians wildly, gone in for export of textiles, after initially satisfying the accumulated war-time domestic demand. Organizationally, this meant that manufacturers and spinners reserved a greater or smaller proportion of their capacity for a more or less regular domestic demand, while varying their remaining capacity—or its full employment—for export according to results and expectations. By contrast, the industry of both the United States and, to an increasing extent, the United Kingdom catered primarily for domestic demand. Thus the two spheres tended to be kept separate, and when one inclines towards a recession manufacturers often prefer—out of conservatism, a desire to avoid cut-throat competition, and even the choice of a lesser risk—to reduce their output rather than attempt to direct the threatened production into the other channel. It must be emphasized that textile production and consumption are very conservative functions and industries—as 'pirates' discover to their cost—and hence export connexions are usually by the nature of things more sensitive than domestic ones. This immobility probably increases in the case of large, well-established industries. There is, therefore, at least a possibility

[1] See above, p. 184.

that in France, as in Italy, no sustained effort has been attempted to inflate domestic demand; French industry is a quasi-monopoly, controlled by relatively few outside interests, and in Italy it is easy to reduce overheads in almost the same proportion as output by the frequent use of commission work, a general readiness to lay off workmen, and the prevalence of short-term rather than long-term speculation.

The most remarkable, as well as the most important, exception of all is the United States. Wool consumption was based on the domestic clip, which is considerable, and provided 50 per cent. of domestic needs just before the war. The U.S. Government, by guaranteeing prices and levying import duties in foreign wools, not only encouraged production but assisted its disposal. Hence imported wools felt the full brunt of market changes as regards the quantity imported, and this had an important effect on prices. The United States were, from 1934 to 1938, the second largest importing country before the war.

Since the war the United States have enormously increased their consumption. American demand for most products which are not unduly inelastic tends probably to be more price-conscious than that of other countries, where consumers do not have the extremes of competition drummed into them from childhood. Hence the wool market is peculiarly sensitive to such influences as devaluation of sterling, which caused a lowering of costs. But coupled to this sensitiveness is that of confidence; market moods, based on speculative expectations of sales, have an unusual influence on the activities of merchants, and this is by no means confined to the wool trade. As is usually the case, speculation starts from a willingness to undertake extra risk in order to be more competitive in price, and finishes up by overriding the warnings that price tendencies can give. Thus, as was stated earlier, a boom in wool out of all proportion to real demand for wool products will not decrease and may increase the merchants' willingness to hold unsold stock, providing their financial reserves or credit possibilities are up to it. This later proviso was increasingly taken care of, thanks to the government's policy of full employment, and thanks also to the general inflationary movement in the world. Thus price and quantitative tendencies for wool imports into the United States are bound to be very uneven, irrespective of the basic long-term trends. That is America's peculiar danger, and since the United States demand for wool now governs ultimately the tendencies of the world market in that commodity, the whole world is now tied to this nervous oscillograph.

There is no doubt, however, that the extraordinary pre-war disparity between average *per capita* real income and wool consumption has been to some extent rectified. It is impossible to say why with any accuracy, but it seems reasonable to assume that since the disparity between wool

consumption at different levels of incomes, except for the lowest, was relatively slight, and that apparent inelasticity was reached at low income levels and at a fairly low personal wool consumption figure, it has been possible for this inelasticity to be 'elastified', whether by advertising, fashions, technical improvements, mere snobbery, or even an extension to this field of selective price consciousness, based on the consumers' theory of enterprise so potent in America. To some extent the French argument may apply in reverse: having established an increased wool-manufacturing capacity during and just after the war, every effort was made to condition the internal market to absorb the excess production compared to pre-war, when consumption of imported wools was much smaller and no special efforts were made to extend it. What is relatively easy in Italy as regards putting off or taking on labour, and changing the direction of output, is specially difficult in America, and hence consumer demand must be made to vary accordingly. It remains to be seen whether this increased *per capita* wool consumption is a temporary or permanent feature in the United States. In other words, in a country with a high standard of living, is increased wool consumption a feature of higher incomes or merely of rising incomes?

Examined in detail the changes in United States textile industry show a particularly marked increase in the weaving section, and while top and yarn imports increased in only slightly smaller proportion to wool imports, compared to pre-war, cloth, from being a staple import commodity temporarily became an export commodity instead. But the greater part of the increase was undoubtedly absorbed domestically, though the greatest increase in consumption was in carpets rather than apparel products; a slight pointer towards the increasing elasticity tendency in wool products generally. It must be borne in mind in this connexion that America is the home of artificial fibre as far as qualitative competition with wool is concerned, and that much of the marginal demand for apparel products, which might have increased wool consumption, is in fact expended on nylon and its relations. None the less, it is clear that there is a consumers' as well as producers' pressure, making for increased domestic consumption compared to pre-war, and that therefore the United States domestic market is now capable of sustaining a substantially higher price for wool than is warranted by the proportionate increase of the general raw materials commodity price index over pre-war. The United States being the world's greatest single wool importer today, this fact today governs world wool prices.

## The post-war wool trade

The unsatisfied demand accumulated during the war years impinged heavily on post-war prices, though much of the effect was cushioned by

the vast stocks accumulated by the Joint Organization against this contingency. But it was expected that the liquidation of these stocks would take at least between 10–15 years; in the event their disposal was completed after 5 years. In addition, wool prices rose almost continuously till the end of 1950, until they reached levels more than double the previous all-time high of 1920, and out of all proportion to the post-war average level of all raw materials, itself highly inflated compared to pre-war days. Naturally a large part of this inflation was the indication of the fall of monetary value. We must also take into account the political tension which returned to the world within $2\frac{1}{2}$ years of the Armistice, and which found most of the accumulated stocks already earmarked against the unchecked exigency of civilian demand. But it is clear that actual military demands, as opposed to the expectation of them by merchants, had neither begun to be satisfied by the middle of 1951, nor had the governments of the United States and western Europe stockpiled more than one-fifth of their estimated requirements, according to official statements. Thus the specially sharp rise in wool prices must be put down to two factors: the increased civilian consumption since the war and merchants' increased willingness to buy and hold stocks against later resale at higher prices, and, secondly, the knowledge of governments' intentions to stock and process wool for defence requirements, and merchants' willingness to buy and hold stock against this expected demand. All this, of course, in addition to the world-wide inflationary tendencies of a general nature.

When the United States suddenly changed from heavy buying to complete abstention, the market soon started to fall, and fell continuously to pre-Korea levels. This was just a reaction to the unnatural heights to which wool prices had previously risen. But instead of resuming its place somewhere on the price scale of raw materials, wool followed an unusually erratic course.

In September 1951 the hot wind of devaluation rumours, especially in France, gave wool prices a new impetus, and a hitherto unprecedented rate of rise—80 per cent. in 10 days—resulted. The rumours turned out to be only rumours, and wool prices decreased, with occasional upward flutters, almost to September levels. All this time, it should be noted, the stockpiling programme, which had helped to bring about the original scare, was quietly being executed, without affecting the market more than very slightly. One lesson, at any rate, had been learnt. But worse was to come. Owing to production lags the heavy capital investment in textile manufacturing was only now taking effect, and, the boom over, the textile industry all over the world found itself with far greater capacity than ever before. With consumer demand temporarily filled, and government orders being placed discreetly, the textile industry completed the circle

by being the first industry to suffer from a post-war slump of world-wide dimensions. By March 1952 wool prices were back to 1947–8 levels. The organization of the trade, which made possible the abnormal rise of 1951, accented the excessive fall of 1952, and post-war changes in this organization helped to accent these exceptional price swings.

Underlying these events has been an important revolution in the structure of the wool trade itself. Manufacturers have tended to concentrate more and more on buying prompt wools—asking for offers rather than giving orders. At times when business was brisk this did not affect the form of auction buying, though the share of merchants' purchases in the primary markets increased in relation to that of manufacturers; the amount of auction buying was the same. Thus replacement and stock buying was done at the merchant's risk. As prices dropped in 1951 manufacturers still tended to buy prompt, but merchants were rather less willing to stock, and since there was reduced selling there was also reduced replacement. This meant that growers had to supply part of the prompt wools by sending part of their clip to the London auctions or on consignment to merchants. Not all growers were able to do this, and, except for those with large capitals, the decision to sell in London was in the hands of the finance houses, who enable many growers to operate. The richest sellers of auction wools, the meat-packing houses who sell the wool from their carcasses, have always sold 85 per cent. of their wool either in London or by private contracts, and not at the primary auctions. The advantage of the London sales is, of course, that prices for these prompt wools are always 5–10 per cent. higher than those current at the auctions in the overseas markets.[1] Since the war the amount of new clip wools sent to London had greatly decreased compared to pre-war, when business was much quieter. Had it not been for the disposal of the war-time accumulation of Joint Organization stock, the London wool sales would have fared badly after the war; indeed, as Joint Organization stocks were coming to an end an attempt was made by members of the London Committee of Wool Brokers to persuade growers to send a larger proportion of their wools to London. Recently, however, the trend has been reversed; the November 1951 London sales showed 42,000 bales offered as compared to 30,000 in November 1950. It is at least probable that, unless there is another boom, the London auctions may resume their importance, indeed increase it as compared to pre-war. There is the double factor of increased growers' capital, desultory fits and starts followed by recessions in the textile trade, and an increasing desire on the part of manufacturers not to cover their requirements ahead of the most immediate orders.

The future markets also have given evidence of new tendencies. The

[1] See above, p. 179.

scope of futures has greatly expanded since the war. Being an entirely non-technical speculation—the futures top is nearly always capable of being sold at any time—they are always capable of being used unwisely as a small private speculators' goldmine, especially when the newspapers talk about wool booms. Before the war it was said that the Lancashire Cotton Exchange, for instance, paid the cotton speculators out of the losses of the 'mugs' outside the trade. But the wool futures market before the war was a manufacturers' sanctum as a means of forward purchase or as a means of reinsurance of uncovered purchases or sales. As the proportion of merchant risk or merchant stockholding as compared to that of manufacturers greatly increased since the war, the larger part of dealing in futures today is done by merchants and merchant-topmakers. At the same time the turnover of futures is increasing, not because the tendency for pure speculation has increased but because the merchanting speculation in wool gives greater scope to the compensatory activities of the futures market. In the countries where a wool futures market operates, the United States (New York), Belgium (Antwerp), and France (Roubaix-Tourcoing), merchant and topmaking capital is concentrated into fewer and larger units than in England, and this again makes for increased activity at a time when the tendency for concentration is increasing. In the United States the organization and scope of wool futures has developed to such an extent that 'hedging' is used as an insurance for almost any type of large-scale wool or top transaction. Today wool futures represent, of course, still a very small proportion of wool capital turnover, and British participation therein, even with the recent partial restoration of permission to operate on the continental exchanges, is very limited indeed. In England the very size of the local textile industry has slowed up the process towards merchanting capital accumulation, though the recent disorganization of prices and business activity may give it a fillip. In a few years we may perhaps have a futures market; in any case we are likely to follow the continental tendency towards accumulation or lose our unique place in the raw material world to a large exent.

The great emergence of the more speculative element in the wool trade —merchant and manufacturers speculation—since the war becomes very clear from the events of September 1951.[1] After the continuous drop from 350 pence to 120 pence for merinos, the market established another new record by rising 80 per cent. and falling 40 per cent. of the peak within a fortnight. This was followed by a new, slower rise and another drop. It is very clear that genuine demand had little to do with these price swings. The cloth retail trade was still, in November 1951, trying to digest the peak prices of the first quarter, and though cloth orders did

[1] See above, pp. 185–6.

show occasional slight improvements, these did not justify the huge price swings. These were caused by devaluation rumours, especially concerning the French franc, and importers speculated for some months ahead in marginal requirements, an action which manufacturers would probably not have taken on the same scale. The whole operation provides evidence, not only of the increased non-technical speculative tendency, but also of the fact that the purely speculative element of capital in wool has greatly increased. In England new firms have started whose capital comes from sources outside of wool, and all wool firms in the world, especially in those countries where the system of taxation puts a heavy premium on distribution of profits, have found it necessary to employ rapidly expanding capitals which, in view of the declining market, have been used increasingly for speculation. There is an increasing approximation between the technique of the normal wool trade and the futures market.

## Conclusion

It is true to say of wool that trade follows manufacture: merchant capital migrates or is created after manufacturing has become established somewhere. There are a few exceptions, such as India, but even here there is at best an equal and joint migration and expansion. This process is accelerated by governmental action, such as currency restrictions, import duties, alterations in the rate of exchange, and, above all, by the growth of a developed credit system in countries whose economy is catching up with modernity. The end of the war gave a fillip to these tendencies in many countries of Asia, Africa, and South America, and it is probable that the process will continue more rapidly than before the war. In the end, while yarn exports of countries may diminish only slightly, or even remain steady at certain levels, on account of the premium of manufacturing skill required in their production, the export of tops will diminish proportionately more (bearing in mind, however, that combing is a relatively capital-intensive and also skilled process), and the re-export of wools, a purely financial affair reserved at present for countries with large capital accumulations, will decrease the most. The more rapid the development of backward countries, the more rapid this evolution, but in any case its completion is a prospect for the distant future. At the present time, yarn exports are generally decreasing, proportionately to demand, cloth exports have reached the level of becoming dependent on special quality lines, and not at all on marginal costs in view of the ever-present and often prohibitive governmental interference through tariffs and quotas. The rate of increase of top exports and wool re-exports is decreasing slowly, though actual exports are still increasing, with fluctuations according to prices and demand. Eventually, therefore, speculative capital will

be divided geographically or nationally into *blocs* serving, and of proportionate size to, manufacturing capital in one such geographical unit of the textile trade, while manufactured textile imports will be based less and less on marginal costs, leaving only the very small, hard core of 'quality' exports. The aspect of speculative capital serving the textile trade has tended to be ignored by governments who have confined their attention more to fixed capital. Governments always tacitly accept a full-blooded version of the labour theory of value. The problem of controlling raw-material price fluctuations has, of course, troubled—among many others—Keynes, and today governments implicitly follow his idea that these fluctuations destroy the merchants' capacity, and therefore function, of stockholding in times of unstable price.

The apparent rule which governs purchases and sales in the wool trade is the price obtaining at the auctions in the primary markets, especially with regard to trends rather than actual levels. Hence a sellers' market is in the merchant's favour, as his capital is designed to be flexible, while a market in the buyers' favour is to the advantage of the manufacturer, whose cost calculations against sales should govern his purchases without interference.[1] A decrease of manufacturers' credit facilities at a time of rising wool prices would thus sharply counteract this trend if either merchants were unable to provide the extra credit facilities which usually enable manufacturers to pay the higher prices, or if the prospects of a speedy levelling-off of raw material prices—and thus higher margins—made it worth a manufacturer's while to purchase his requirements in the auctions against payment prior to shipment. This latter case would only come about if the margins between auction wool prices and merchants' prompt delivery wool prices were substantially greater than the borrowing premium of capital required to finance this operation, plus the cost of any extra sorting, scouring, or other process, the cost of which is normally carried by the merchant and included in his price. It will be seen that in times of instability, as for instance a post-war expansion into the vacuum of 4 years' unfilled and accumulated demand, or in times of inflation with currency devaluations, or the danger thereof, there will be a frequent fluctuation in the proportions between manufacturers' and merchants' purchases. The accent of bulk purchases in the auctions may shift quickly from orders on behalf of manufacturers to orders on behalf of merchants. This fluctuation is possibly the single most disturbing factor in the stability of prices. Short-term fluctuations are accented by increased merchants' purchases, as the latter react quickly to any possibilities of change in demand and value of raw material as against price. On the

[1] This, of course, deliberately ignores the grower's point of view, which is a different and separate aspect of the trade.

other hand, manufacturers' purchases make for longer-term swings in prices; the decision on the part of the manufacturers to buy forward for 6 months' requirements instead of 2 months' requirements will not, by itself, cut out the merchants, and the double pressure on the market will bring about those really heavy price swings which we have witnessed since the war. Thus the first step towards eliminating the excessive price swings in the wool trade is to ensure that the larger proportion of wool bought at the auctions is bought by the same element all the time, whether merchanting or manufacturing. If merchants are to buy consistently there will always be an immediate nervousness in the market which, however, is inevitable; moreover, the tendency for the largest accumulation of merchanting capital and its influence on auction prices to shift from the United Kingdom to America and the Continent, which is one of the definite results of the first 5 years after the war, has increased this nervousness. Before the war the large houses in Bradford were conservative in their approach to the market, and were uninfluenced generally by considerations outside their trade. They were stable interests in a stable economy. Since the war British ideas and activities have remained adjusted to an economic stability which no longer corresponds to reality, and the unstable post-war economic situation of the world suits the French and the Americans far better. Partly for this reason—and partly for the reasons given earlier in this paper—Britain has partly lost control of the world's wool markets, and the wool market has adjusted itself to the lack of stability of other raw-material markets, although the British wool trade has not.

None the less, it was not the influence of merchants after the war which brought about the huge price swings, but the almost irresponsible activities of manufacturers who, for the first time, decided to enter the wool market as direct buyers, equipped though they were with a much smaller knowledge of the importance and technique of careful wool buying in relation to price stability. It has been said already that providing orders on the books are sufficient the price of wool does not seem to count for very much for manufacturers, and the latter have therefore been able to operate at the auctions with the unconscious appreciation of this fact. Now that the immediate post-war demand has been saturated and we may expect a recession of fairly long duration compared to the last few years, manufacturers have once again withdrawn and are covering their purchases only against their most immediate orders. We may therefore expect a return to a certain amount of stability, though it is impossible to expect the stability of pre-war days. Even this would once again go by the board if manufacturers should again decide to re-enter the market themselves on a big scale. For instance, if eastern Europe and the Far East were

once again to become open to the products of Bradford, if South America were to become a stable market capable of fulfilling its commitments regularly, we should witness the return of a sudden boom and with it the buoyant reaction of the industry.

This consistency is therefore the biggest factor making for stability. In the long run the permanent imposition of a limiting scheme on auction prices, such as that suggested by the Americans at the Raw Material Conference in Washington, is more likely to do harm than good, as the Australians claimed. Such a scheme is eminently suitable for those relatively short periods when it is likely that different interests are competing for the same limited supplies; it would have worked successfully in the last 4 years, but the apparatus required for interfering with the auction system is so awkward and cumbersome, and periods of great fluctuations are sufficiently difficult to foresee, that even this limited application of a reserved price scheme is difficult to achieve in practice. Short of a complete reorganization of the merchanting organization of the wool trade substituting for instance a few much larger groups for the many, on the whole, small groups now operating, it is difficult to foresee a successful method of eliminating price swings. But a tendency towards oligopoly is not enough. Ultimately it can only be cured by factors outside the wool trade itself. One of the reasons why the French and the Americans have been able to supplant Britain is the fact that the French organization, for instance, consists of a small number of very large private concerns, with almost unlimited funds at their disposal, no shareholders to account to, and more money than investment possibilities. A successful system of taxation such as in England, which limits the huge accumulations of working capital without a reasonable proportion of fixed capital, would do much, for instance, to prevent the operation of huge groups in relation to the expected devaluation of currency. This in turn would have to be supplemented by a scheme of restriction or expansion of credit used for purely speculative purposes as the market went up or down.

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